Agristars

"Made available under MASA sponsorship in the interest of early and wide dissemination of Earth Resources Survey Program information and without liability for any use medashereat."

AgRISTARS Program Documentation

E84-10030

AP-L3-04416 JSC-18887 CR-171 704

A Joint Program for Agriculture and Resources Inventory Surveys Through Aerospace Remote Sensing

June 1983

AGRISTARS DOCUMENTS TRACKING LIST REPORT

Seventh Edition



J. L. Hawkins

Tipciment Engineering and Management Services: Company, Inc.

(E84-10030) AGLISTARS LOCUMENTS TRACKING LIST REPORT (Lockheed Engineering and Managereet) 107 p aC Aub/MF AC1 CSCL C2C

N84-10647

Unclas G3/43 00030











Lyndon B. Johnson Space Center

Houston Texas 77058

AGRISTARS DOCUMENTS TRACKING LIST REPORT

Job Order 70-223

This report lists all documents that have been published in support of the AgRISTARS program.

PREPARED BY

J. L. Hawkins Renewable Resources Department

APPROVED BY

NASA

LOCKHEED

R. Bryan Erb, Acting Chief

Science Support Office

Krumm, Manager

Renewable Resources Department

Prepared By

Lockheed Engineering and Management Services Company, Inc. Under Contract NAS 9-15800 For Science Support Office Space and Life Sciences Directorate

> NATIONAL AERONAUTICS AND SPACE ADMINISTRATION LYND " B. JOHNSON SPACE CENTER HOUSTON, TEXAS

> > **JUNE 1983**

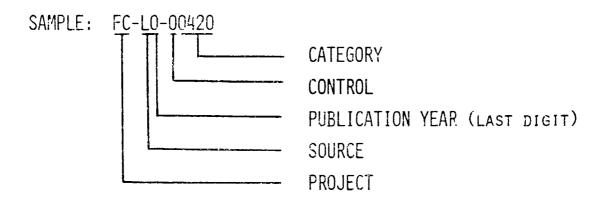
LEMSCO-19557

PREFACE

The AgRISTARS Document Tracking List Report provides a quarterly listing of those documents and related publications that have been issued and placed in the AgRISTARS tracking system.

The Tracking List Report provides a catalog, by project, cf technical publications arranged by type of document and gives the reference AgRISTARS document numbers, title and date of publication, the issuing organization, and the National Technical Information Service (NTIS) reference number.

Identification/Coding System:



Project Listing: AP - AgRISTARS Program Documentation

EW - Early Warning and Crop Condition Assessment

*FC - Foreign Commodity Production Forecasting IT - Inventory Technology Development

YM - Yield Model Development

SR - Supporting Research

SM - Soil Moisture

DC - Domestic Crops/Land Cover

RR - Renewable Resources Inventory

CP - Conservation and Pollution

MU - Multiple (pertaining to two or more projects)

^{*}As of January 19, 1982, the Foreign Commodity Production Forecasting project; name and objectives were changed. The new name is Inventory Technology Development (ITD).

Source Listing:

- A University of Arkansas, Fayetteville, Arkansas
- B University of California at Berkeley
- C University of California Davis Campus
- D Duke University, Durham, NC
- E ERIM
- F Ford Aerospace
- G Goddard Space Flight Center
- H University of Houston
- I IBM
- J JSC/NASA-Houston
- K Kansas University (Lawrence, Kansas)
- L Lockheed
- M Kansas State University, Manhattan, Kansas
- N NOAA-Houston
- 0 South Dakota State University
- P Purdue University
- Q Massachusetts Institute of Technology (Cambridge, MA)
- R Beltsville Agricultural Research Center (BARC)
- S University of California Santa Barbara
- T TAMU (Texas A&M University)
- i' USDA-Houston
- Y University of Washington (Pullman, VA)
- W George Washington University (Washington, DC)
- X Elogic
- Y NASA/NSTL Earth Resources Laboratory (Mississippi)
- Z NASA Langley Research Center (Hampton, VA)
- 1 USCA (Columbia, Missouri)
- 2 Montana State University (Bozeman, MT)
- 3 Kentron International, Hampton, VA
- 4 Forestry Data Consultants
- 5 University of Maryland
- 6 Southern Methodist University
- 7 Old Dominion University
- 8 University of Nebraska

Control Codes:

- C Baselined Documents
- 0 Open Distribution Documents
- R Restricted Distribution
- T Tracking Purposes Only

TABLE OF CONTENTS

PROJECTS/CATEGORY	CATEGORY NO.	PAGE NO.
AGRISTARS PROGRAM DOCUMENTATION (AP)		
- Technical Reports	00400	AP-1
- Pians	00600	AP-2
EARLY WARNING AND CROP CONDITION ASSESSMENT		
- Instructions	00100	EW-1
- Technical Reports	00400	EW-2
- Plans	00600	EW-7
- Procedures	00700	EW-8
- Unnumbered Documents	00900	EW-11
INVENTORY TECHNOLOGY DEVELOPMENT (ITD)	***************************************	
- Task Descriptions	00300	IT-1
- Technical Reports	00400	IT-2
- Minutes	00500	IT-8
	00600	IT-9
- Plans		IT-11
- Procedures	00700	
- Unnumbered Documents	00900	IT-13
YIELD MODEL DEVELOPMENT (YM)	22122	V44 4
- Instructions	00100	YM-1
- Technical Reports	00400	YM-2
- Plans	00600	YM-4
- Proceduras	00700	YM-5
- Unnumbered Documents	00900	YM-6
SUPPORTING RESEARCH (SR)	2222	AD 1
- Requirements	00200	SR-1
- Task Description	00300	SR -2
- Technical Reports	00400	SR - 3
- Minutes	00500	SR -17
- Plans	00600	SR-18
- Procedures	00700	SR -19
- Unnumbered Documents	00900	SR-20
SOIL MOISTURE (SM)		
- Instructions	00100	SM-1
- Technical Reports	00400	SM-2
- Plans	00600	SM-7
- Technical Translations	00800	SM-8
- Unnumbered Documents	00900	SM-9
DOMESTIC CROPS/LAND COVER (DC)		
- Technical Reports	00400	DC-1
- Plans	00600	DC -2
- Unnumbered Documents	00900	DC-3
RENEWABLE RESOURCES INVENTORY (RR)		
- Technical Reports	00400	RR-1
- Plans	00600	RR -3
- Unnumbered Documents	00900	RR-4
CONSERVATION AND POLLUTION (CP)		
- Technical Reports	00400	CP-1
- Plans	00600	CP -3
- Unnumbered Documents	00900	CP-4
CHIRCHOCI CO DOCUMENTOS	11100,00	3 , ,

Agristars program documentation (AP)

R. B. Erb, Manager Science Support Office/SC NASA Lyndon B. Johnson Space Center Houston, Texas 77058

FTS 525-4776

DOCUMENT NOS.	TITLE
AP-J0-04111	NTIS: 82N23609 AgRISTARS Annual Report (1990)
AP-L1-04116 First Edition	AgRISTARS Documents Tracking List (February 1981)
AP-L1-04116 Second Edition	AgRISTARS Documents Tracking List Report (June 1981) (FebMarch-April-May 1981)
AP-L1-04116 Third Edition	AgRISTARS Documents Tracking List Report (Through September 1981)
AP-L2-04116 Fourth Edition	AgRISTARS Documents Tracking List Report (Through March 1982)
AP-L2-04116 Fifth Edition	NTIS: 83N12502. AgRISTARS Documents Tracking List Report (Through June 1982)
AP-L2-04116 Sixth Edition	AgRISTARS Documents Tracking List Report (Through December 1982)
AP-L2-04116 JSC-18887	AgRISTARS Documents Tracking List Report - Seventh Edition (Through June 1983)
AP-J1-04137 JSC-17415	Data Directory Report
AP-J2-04225	AgRISTARS Annual Report - Fiscal Year 1981 (January 1982)
AP-J2-04393	AgRISTARS Research Report FY1982 (January 1983)

A MA TO PROPERTY BY MANY THE PARTY OF THE PA

DOCUMENT NOS.	TITLE
AP-J0-C0628 JSC-17153	AgRISTARS Technical Program Plan (January 15, 1980)
AF-J0-C0628-1 JSC-17153	AgRISTARS Technical Program Plan - Appendix B - Data Management Plan - Volume I (April 11, 1980)
AF-L3-00630 USC-17158	AgRISTARS Data Management Plan (May 1981)
AF-J9-C0631 JSC-17396	AgRISTARS Technical Program Plan (April 20, 1979)
AP-J0-C0632 JSC-17396	Management/Organization Plan (January 15, 1980)
AP-J2-C0659 JSC-18578	Revised Program Plan (September 1982)

EARLY WARNING AND CROP CONDITION ASSESSMENT (EW)

G. O. Boatwright, Project Manager USDA/SEA
1050 Bay Area Blvd.
Houston, Texas 77058

Phone: FTS 525-5244

PROJECT: EARLY WARNING AND CROP CONDITION ASSESSMENT (EW)

INSTRUCTIONS - 00100

DOCUMENT NOS.	TITLE
MU-J0-0101	NTIS: 82N19628. Soil Moisture/Early Warning and Pup
JSC-16842	Condition Assessment Interface Control Document (just 15.
MU-J0-0102	Yield Model Development/Early Warning and Crop Condition
JSC-16843	Assessment Interface Control Document (August 1980)
EW-L2-00103 LEMSCO-18681 JSC-18271	Crop Condition Query Software Documentation (September 1982)

REPORTS - 00400

DOCUMENT NOS.	TITLE
EW-N1-04042 JSC-17112	NTIS: 81N31596. Meteorological Satellite Data - A Tool to Describe the Health of the World's Agriculture (February 1981)
EW-U1-04052 JSC-17118	NTIS: 81N28496. Hand-Held Radicmetry - A Set of Notes Developed for Use at the Workshop on Hand-Held Radiometry (October 1980)
EW-U1-04068 JSC-17125	NTIS: 81N29500. Soil Moisture Inferences from Thermal Infrared Measurements of Vegetation Temperatures (March 1981)
EW-U1-04074 JSC-17130	NTIS: 81N28497. Large Area Application of a Corn Hazard Model (March 1981)
EW-N1-04075 JSC-17131	NTIS: 81N29506. The Characteristics of TIROS, GOES, DMSP, and Landsat Systems (March 1981)
EW-N1-04076 JSC-17132	NTIS: 81N29505. The Environmental Vegetative Index - A Tool Potentially Useful for Arid Land Management (March 1981)
EW-U1-U4077 JSC-17133	NTIS: 81N33566. Canopy Temperature As A Crop Water Stress Indicator (March 1981)
EW-L1-04101 JSC-17251 LEMSCO-16204	NTIS: 82N21635. Registration Veri ication of SEA/AR riel (May 1981)
EW-U1-04103 JSC-17143	NTIS: 82N23598. Plant Cover, Soil Temperature, Freeze, Water Stress, and Evaportransportation Conditions (February 1981)
EW-N1-04104 JSC-17144	NTIS: 82N22588. Utilization of Meteorological Satellite Imagery for World-wide Environmental Monitoring: The Lower Mississippi River Flood of 1979 (May 1981)
EW-U1-04115 JSC-17157	NTIS: 82N22589. Environmental Factors During Seed Development and Their Influence on Pre-Harvest Sprouting in Wheat (May 1981)
EW-U1-04119 JSC-17399	NTIS: 82N23564. A Meteorological Driven Maize Stress Indicator Model (July 1981)
EW-21-04124 NAS 9-16007	NTIS: 82N22544. Review of Literature Relating to the Modeling of Soil Temperature Based on Meteorological Factors (July 1981)
EW-L1-04134 JSC-17413 LEMSCO-16844	NTIS: 82N21657. A Look At the Commonly Used Landsat Vegetation Indices (October 1981)

DOCUMENT NOS.	1	TITLE
EW-U1-04144 JSC-17420		Airborne Observed Solar Elevation and Row on the Near-IR/Red Ratio of Cotton (August
EW-R1-04147		Agricultural Research Service Research te Sensing for Calendar Year 1980 (July
EW-J1-04150 JSC-17424		An Impirical, Graphical, and Analytical ionships Between Vegetative Indices
EW-U1-04185 T-4629H	NTIS: 82N32799. F Spring Emergence of (April 1981)	Predicting the Timing and Potential of the f Overwintered Populations of Heliothis Spp
EW-L1-04190 JSC-17437 LEMSC0-17312		Area Estimation of Environmental Phenomena ite Data (Cctober 1981)
EW-U1-04208 JSC-17797		A Meteorologically Driven Grain Sorghum odel (November 1981)
EW-U1-04212 JSC-17801	Winter Wheat Crop (Evaluation of the Doraiswamy-Thompson Calendar Model Incorporating a Modified uence (November 1981)
EW-L1-04215 JSC-17803 LEMSC0-17262		to Universal Format Conversion Program Gwide (December 1981)
EW-, 04216 JSC-17804 LEMSC0-17331		r Guide: Plotting of Landsat, Sun-Angle, Corrected Data Versus Acquisition Date
EW-L2-04223 JSC-17809 LEMSCO 17644	NTIS: 82N24555. / Literature (Februar	A Review of Remote Sensing and Grasslands ry 1982)
EW-U2-04243 JSC-17817	Increase of Cold To Hirsutum L.) by Me	olerance in Cotton Plant (Gossypium piquat Chloride (February 1982)
EW-U2-04244 JSC-17818	Reflectance Measure by Mepiquat Chloric	ements of Cotton Leaf Senescence Altered de (February 1982)
EW-L2-04248 JSC-17821 LEMSCO-17307		Preliminary Study for Correlation of ellite Opening (METSAT) Data With Landsat

DOCUMENT NOS.	TITLE
EW-U2-04250 JSC-17823	NTIS: 82N24544. Reflectance Differences Between Target and Torch Rape Cultivars (March 1982)
EW-U2-04251 JSC-17824	NTIS: 82N24545. Leaf Reflectance - Nitrogen - Chlorophyll Relations Among Thre So. Texas Woody Rangeland Plant Species (February 1982)
EW-U2-04252 JSC-17825	NTIS: 82N24542. Reflectance of Litter Accumulation Levels at 5 Wavelengths Within 0.5 to 2.5um Waveband (March 1982)
EW-U2-04253 JSC-17826	NTIS: 82N24546. Optical Parameters of Leaves of Weed Species (March 1982)
EW-U2-04254 JSC-17827	NTIS: 82N24547. Use of Landsat 2 Data Technique to Estimate Silverleaf Sunflower Infestation (February 1982)
EW-J2-04275 JSC-1782:	Semi-Annual Program Review Presentation to Level 1, Interagency Coordination Committee (April 19, 1982)
EW-U2-04298 JSC-18241	NTIS: 83N12488. Determination of Growth and Water Stress in Wheat by Various Vegetation Indices Through a Clear and a Turbid Atmosphere (May 1982)
EW-L2-04303 JSC-18243 LEMSC0-17383	NTIS: 82N32809. Advanced Very High Resolution Radiometer (AVHRR) Data Evaluation for Use in Monitoring Vegetation, Volume I - Channels 1 and 2 (May 1982)
EW-L2-04312 JSC-18246 LEMSC0-18237	Computer Program Documentation for the Flood Damage Assessment Processors (April 1982)
EW-U2-04319 JSC-18254	NTIS: 83N12482. Influence or Environmental Factors During Seed Development and After Full-Ripeness on Pre-Harvest Sprouting in Wheat (June 1982)
EW-U2-04320 JSC-18255	NTIS: 83N13536. Estimating Total Standing Herbaceous Biomass Production with Landsat MSS Digital Data (June 1982)
EW-U2-04327 JSC-18258	NTIS: 83N12492. Winter Wheat Stand Density Determination and Yield Estimates from Handheld and Airborne Scanners (June 1982)
EW-U2-04328 JSC-18259	NTIS: 83N12489. Optical Parameters of Leaves of Seven Weed Species (June 1982)
EW-T2-04329 NAS 9-16556	"Semi-Annual Progress Report Development of An Early Warning System of Crop Moisture Conditions Using Passive Microwave" (April 1982)

REPORTS - 00400

DOCUMENT NOS.	TITLE
EM-U2-04334 JSC-18260	NTIS: 83N14562. Adjusting the Tasseled Cap Brightness and Greenness Factors for Atmospheric Path Radiance and Absorption on a Pixel by Pixel Basis (July 1982)
EW-U2-04335 JSC-18261	NTIS: 83N14564. Comparison of Landsat-2 and Field Spectrometer Reflectance Signature of South Texas Rangeland Plant Communities (July 1982)
EW-L2-04340 JSC-18265 LEMSCO-18627	NTIS: 83N15743. Compute: Program Documentation for the Pasture/Range Condition Assessment Processor (July 1982)
EW-R2-04345 JSC-18268	NTIS: 83N14560. ANNUAL REPORT: Agricultural Research Service - Research Highlights in Remote Sensing for Calendar Year 1981
EW-L2-04346 JSC-18269 LEMSCO-18646	SMDATA Program Documentation (September 1982)
EW-U2-04349 JSC-18561	NTIS: 83N ⁴⁵⁵⁹ . Diurnal Patterns of Wheat Spectral Reflectance and Their Importance in the Assessment of Canopy Parameters From Remotely Sensed Observations (September 1982)
EW-U2-04350 JSC-18562	NTIS: 83N14567. Comparisons Among a New Soil Index and Other Two- And Four-Dimensional Vegetation Indices (September 1982)
EW-U2-04351 JSC-18563	NTIS: 83N14558. Use of a Near-Infrared Video Recording System for the Detection of Freeze-Damaged Citrus Leaves (September 1982)
EW-L2-04357 JSC-18571 LEMSCO-18761	Computer Program Documentation for the Processor Option (September 1932)
EW-U2-04379 JSC-18582	Semi-Annual Program Review Presentation to Level 1, Interagency Coordination Committee (November 29, 1982)
EW-L2-04387 JSC-18589 LEMSCO-18850	Atmospheric Effects on METSAT Data (December 1982)
EW-L3-04394 JSC-18594 LEMSC0-19032	Use of NOAA-n Satellites for Land/Water Discrimination and Flood Monitoring (January 1983)
EW-U3-04397 JSC-18601	A Meteorologically-Driven Yield Reduction Model for Spring and Winter Wheat (February 1983)

REPORTS - 004G0

DOCUMENT NOS.	TITLE
EW-U3-04405	Rain-Induced Spring Wheat Harvest Losses (February 1983)
EW-U3-04406	The Water Factor in Harvest-Sprouting of Hard Red Spring Wheat (February 1983)
EW-U3-04407	The Equivalence of Three Techniques for Estimating Ground Reflectance from Landsat Digital Count Data (April 1983)
EW-L3-04413 JSC-18877 LEMSCO-18246	Landsat Data Proprocessing (April 1983)
EW-L3-04414 JSC-18878 LEMSC0-16928	Simulation of Meteorological Satellite (METSAT) Data Using Landsat Data (May 1983)
EW-L3-04415 JSC-18879 LEMSCO-19352	Effects of Decreasing Resolution on Spectral and Spatial Information Content in An Agricultural Area (June 1983)

PLANS - 00600

DOCUMENT NOS.	TITLE
EW-J0-C0617 JSC-16852	Early Warning/Crop Condition Assessment Project Implementation Plan (1980)
EW-J1-C0622 JSC-16862	Early Warning/Crop Condition Assessment Project Implementation Plan (1981)
EW-U1-C0649 JSC-17800	Early Warning/Crop Condition Assessment Project Implementation Plan (1982)
EW-U2-C0657 JSC-18566	Early Warning/Crop Condition Assessment Project Implementation Plan for Fiscal Year 1983 (September 15, 1983)

DOCUMENT NOS.	TITLE
EW-U1-00700 JSC-16367	Program Development and Maintenance Standards (June 1980)
₹ I-L0-00701 → 3C-16373 £MSC0-15325	NTIS: 81N13433. Limited Area Coverage/High Resolution Picture Transmission LAC/HRPT, User's Manua? Tape Conversion Processor (June 1980)
EW-L0-00702 JSC-16374 EEMSC0-15326	NTIS: 81N13428. Limited Area Coverage/High Resolution Picture Transmission, LAC/HRPT, IJ Grid Pixel Extraction Processor User's Manual (June 1980)
FW-L0-00703 SC-16375 IMSC0-15327	NTIS: 81N13429. Limited Area Coverage/High Resolution Picture Transmission, LAC/HRPT, Vegetation Index Calculation Processor User's Manual (June 1980)
1 M-L0-00704 2 SC-16381 LEMSCO-15356	NTIS: 81N13417. Tape Merge/Crop Processor (August 1980)
EW-L0-00705 JSC-16382 LEMSC0-15357	NTIS: 81N13430. EROS to Universal Tape Conversion Processor (August 1980)
EW-LO-00706 JSC-16821 LEMSCO-15608	NTIS: 81N29501. Conversion of SPU-Universal Disk File to JSC-Universal Tape Storage CONVRT User's Guide (September 1980)
Ek -1 0-00707 JSC-16833 LEMS00-15652	NTIS: 81N21418. Patch Image Processor User's Manual (October 1980)
EW-LO-00708 JSC-16854 LEM3CO-15114	Skip Subsampling Processor User's Manual (November 1980)
EW1-00709 JSC-16855 LEMSCC-15119	NTIS: 82N22541. Computer Program Documentation For the Patch Subsampling Processor (January 1981)
EW-L1-00 1 JSC-17114	NTIS: 82N19607. Wheat Stress Indicator Model, Crop Condition Assessment Division (CCAD) Data Base Interface Drives, User's Manual (February 1981)
FW-L1-00713 :SC-17117	NTIS: 85N15492. Winterkill Indicator Model, Crop Condition Assessment Division (CCAD) Data Base Interface Driver, User's Manual (March 1981))

PROCEDURES - 00700

DOCUMENT NOS.	TITLE
EW-L1-00716 JSC-17397 LEMSCO-16667	General Graphing System (GRAPH) User Guide (June 1981)
EW-L1-00732 JSC-17793 LEMSCO-17179	NTIS: 82N21652. Wheat Stress Indicator Model, Early Warning (EW) Data Base Interface Driver, User's Manual (November 1981)
EW-L1-00733 JSC-17794 LEMSCO-17178	NTIS: 82X74779. Winterkill Indicator Model, Early Warning (EW) Data Base Interface Driver, User's Manual (November 1981)
EW-L1-00734 JSC-17795 LEMSCO-17193	NTIS: 82X74780. Two-Layer Soil Moisture Model, Early Earning (EW) Data Base Interface Driver, User's Manual (November 1981)
EW-L3-00735 JSC-17805 LEMSCO-17264	Program IJ MAP User's Guide (March 1983)
EW-L2-00741 JSC-18225 LEMSCO-18055	Flood Damage Assessment Processor's, Early Warning, User's Manual (April 1982)
EW-L2-00743 JSC-18238 LEMSC0-18206	METSAT5 Program Documentation (May 1982)
EW-L2-00749 JSC-18252 LEMSC0-18244	METSAT Image Ratification Program (RECTIF) User Guide (May 1982)
EW-L2-00751 JSC-18262 LEMSCO-18504	Program SMDATA User Guide (July 1982)
EW-L2-00753 JSC-18267 LEMSCO-18641	METSAT to Universal Format User Guide (September 1982)
EW-L2-00754 JSC-18567 LEMSCO-18688	Pasture/Range Condition Assessment Processor User's Manual (September 1982)
EW-L2-00755 JSC-18568 LEMSCO-18690	METSAT to Universal Format Reformatting Program (September 1982)

PROCEDURES - 00700

DOCUMENT NOS.	TITLE
EW-L2-00756 JSC-18577 LEMSC0-18788	Data Base Model Processor System User Guide and Program Documentation (October 1982)
EW-L3-00759 JSC-18595 LEMSC0-19029	Computer Program Documentation for the Sugar Beet Model (January 1983)
EW-L3-00762 JSC-18599 LEMSC0-18918	A Program to Simulate METSAT Data (January 1983)
EW-L3-00764 JSC-18604 LEMSC0-19082	Sugar Beet Model Early Warning (EW) User's Manual (January 1983)
EW-L3-00765 JSC-18608 LEMSCU-19160	Option Program. Early Warning (EW), User's Manual (January 1983)
EW-L3-00766 JSC-18875 LEMSC0-17311	Program LPLOT User Guide: Plotting of Crop Trajectories Using Four Vegetated Indices (April 1983)
EW-L3-00767 JSC-18880 LEMSC0-19360	Satellite, Agronomic and Meteorological (SAM) Data Base Development Software Documentation (May 1983)

- Allen, L. H., Jr. J. F. Bartholic, R. G. Bill, Jr., A. F. Cook, H. E. Hannah, K. F. Heimberg, W. H. Henry, K. Hokkanen, F. G. Johnson, and J. W. Jones. 1980. Evapotranspiration Measurements. In Florida Water Resources, NAS 10-9348, Final Report, IFAS, University of Florida, in cooperation with NASA, Kennedy Space Center, South Florida Water Management District, and U.S. Department of Agriculture, SEA, AR. pp. 5.6-1 to 5.6-88.
- Allen, R. F., R. D. Jackson, and P. J. Pinter, Jr. 1980. To Relate Landsat Data to U.S. Agriculture. Agric. Engin. 61(11):12-14.
- 2 azel, A. J., and S. B. Idso. 1979. Thermal Effects of Dust on Climate. Annals of the Assoc. of Amer. Geographers 69:432-437.
- Chen, E., L. H. Allen, Jr., J. F. Bartholic, R. G. Bill, Jr., and R. A. Sutheland. 1979. Satellite-Sensed Winter Nocturnal Temperature Patterns of the Everglades Agricultural Area. J. Appl. Meteorol. 18:992-1002.
- Diez, J. A., W. G. Hart, S. J. Ingle, M. R. Davis, and S. Rijera. 1980. The Use of Remote Sensing in Detection of Host Plants of Mediterranean Fruit Flies in Mexico, Proc. of 14th International Symposium on Remote Sensing of the Environment. Vol. II, p. 675.
- Duggin, J. J., D. Piwinski, V. Whitehead, and G. Ryland. 1982 Evaluation of NOAA-AVHRR Data for Crop Assessment. Applied Optics, Vol. 21, June 1, 1982. p. 1873-1875. (A82-34179)
- Everitt, J. H., A. H. Gerbermann, M. A. Alaniz, and R. L. Bowen. 1980. Using 70-mm Aerial Photography to Identify Rangeland Sites. Photogram. Engin. and Remote Sensing, pp. 1339-1348.
- Everitt, J. H., A. H. Gerbermann, M. A. Alaniz, and R. L. Bowen. 1980. Using 70-mm Aerial Photography to Identify South Texas Rangeland Sites. Proc. 46th Annual Meeting of Amer. Soc. of Photogrammetry, St. Louis, MO. pp. 409-425.
- Gausman, H. W., J. R. Everitt, and D. E. Escobar. 1979. Seasonal Nitrogen Concentration and Reflectance of Seven Woody Plant Species. J. Rio Grande Valley Hort. Soc. 33:101-104.
- Gausman, H. W., J. H. Everitt, and D. E. Escobar. 1980. Leaf Reflectance-Nitrogen-Chlorophyll Relations Among Three South Texas Woody Rangeland Plant Species. Proc. Rio Grande Valley Hort. Soc. 34:61-66.
- Gerbermann, A. H., J. H. Everitt, and H. W. Gausman. 1981. Reflectance of Litter Accumulation Levels at Five Wavelengths Within the 0.5- to 2.5-um Waveband. Submitted to Photogrammetric Engin. and Remote Sensing.

- Hatfield, J. L., J. P. Millard, R. J. Reginato, R. D. Jackson, S. B. Idso, P. J. Pinter, Jr., and R. C. Goettelman. 1980. Spatial Variability of Surface Temperature as Related to Cropping Practice with Implications for Irrigation Management. Proc. of 14th Ann. Sympos. on Remote Sensing of the Environment. pp. 1311-1320.
- Idso, S. B. 1979. Terrain Sensing, Remoter. McGraw-Hill Yearbook of Science & Technology. D. N. Lopedes, Editor. pp. 392-393.
- Idso, S. B. 1980. The Climatological Significance of a Doubling of Earth's Atmospheric CO₂ Concentration. Science 207:1462-1463.
- Idso, S. B. 1980. Reply to 2 "Letters to the Editor" of Science in regards to a paper of S. B. Idso on "Carbon Dioxide and Climate." Science 210:7-8.
- Idso, S. B. 1980. Evaluating Evapotranspiration Rates. In Proc. Deep Percolation Sympos., Scottsdale, AZ. Arizona Department of Water Resources Report No. 1:25-36.
- Idso, S. B. 1980. On the Apparent Incompatibility of Different Atmospheric Thermal Radiation Data Sets. Quality Journal of the Royal Meteor. Soc. 106: 375-376.
- Idso, S. B. 1980. Book Review "Boundary Lasyer Climates," by T. R. Ok. Agric. Meteorol. 22:81.
- Idso, S. B. Relative Rates of Evaporative Water Losses from Open and Vegetation-Covered Bodies. Water Resources Bull. (in press).
- Idso, S. B., R. D. Jackson, P. J. Pinter, Jr., R. J. Reginator, and J. L. Hatfield. Normalizing the Stress-Degree-Day Parameter for Environmental Variability. Agric. Meteorol. (in press).
- Idso, S. B., R. J. Peginato, C. L. Hatfield, G. K. Walker, R. D. Jackson, and P. J. Pinter, Jr. 1980. A Generalization of the Stress-Degree-Day Concept of Yield Prediction to Accommodate a Diversity of Crops. Agric. Meteorol. 21:205-211.
- Ingle, S. J. 1980. Trabajos hechos de la percepcion remota. Pres. at 3rd Symposia de Prasitologic Agricola, Monterrey, Mexico.
- Jackson, R. D., S. B. Idso, R. J. Reginato, and P. J. Pinter, Jr. 1980. Remotely Sensed Crop Temperatures and Reflectances as Inputs to Irrigation Scheduling. Proc. Amer. Soc. of Civil Engin. Specialty Conference, Boise, ID, July 23-25, 1980, pp. 390-397.
- Jackson, R. D., V. V. Salomonson, and T. J. Schmugge, Irrigation Management--Future Techniques. In Proc. Amer. Soc. Agric. Engin. Second National Irrig. Sympos., Lincoln, NB, October 1980 (in press).

- Kanemasu, E. T., A. Feyerherm, J. Hanks, M. Keener, D. Lawlor, P. Rasmussen, H. Reetz, K. Saxton, and C. Wiegand. (Co-authoors in alphabetical order) Use of Soil Moisture Information in Crop Yield Models. Evapotranspiration Lab., Kansas State University, Manhattan, KS, Tech. Report SM-MO-00462, NAS 9-14899. 41 pp.
- Kimes, D. S., S. B. Idso, P. J. Pinter, Jr., R. D. Jackson, and R. J. Reginato. 1980. Complexities of Nadir-Looking Radiometric Temperature Measurements of Plant Canopies. Appl. Optics 19:2162-2168.
- Kimes, D. S., S. B. Idso, P. J. Pinter, Jr., R. J. Reginato, and R. D. Jackson. View Angle Effects in the Radiometric Measurement of Plant Canopy Temperatures. Remote Sensing of Environment (in press).
- Kimes, D. S., B. L. Markham, C. J. Tucker, and J. E. McMurtrey, III. Temporal Relationships Between Spectral Response and Agronomic Variables of a Corn Canopy. Remote Sensing of Environment (submitted August 1980)
- Lautenschlager, Lyle F., "Sampling Full Frame Data," AgRISTARS Early Warning Reviews, May 1980 and April 1981.
- Lautenschlager, Lyle, F., "Correlations Between Vegetative Indices and Plant Components," AgRISTARS Early Warning Reviews, May 1980 and April 1981.
- Lautenschlager, Lyle F., "Comparison of Vegetative Indices," AgRISTARS Early Warning Review, April 1981.
- Leamer, R. W., and J. R. Noriega. 1981. Reflectance Brightness Measured Over Agricultural Areas. Agric. Meteorol. 23:1-8.
- Leamer, R. W., J. R. Noriega, and A. H. Gerbermann. 1980. Reflectance of Wheat Cultivars as Related to Physiological Growth Stages. Agron. J. 72:1029-1032.
- LeMaster, E. W., J. E. Chance, and C. L. Wiegand. 1980. A Seasonal Verification of the Suits Spectral Reflectance Model for Wheat. Photonents, Kershaw County, SC Feasibillity Test (September 1980), ESC
- Multiresource Inventory Methods Pilot Test (Phase 1), Final Report (October 1980), ESC
- Final Report Methods for Determination of REU Survey Plot and County Boundary Coordinates (September 1980), R. F. Liston, Forest Service, USDA
- Final Report Detection and Measurement of Changes in the Production and Quality of Renewable Final Dry Matter Accumulation. NASA Tech. Memo. (submited November 1980).
- McFarland J. C., R. D. Watson, A. F. Theisen, R. D. Jackson, W. L. Ehrler, P. J. Pinter, Jr., S. D. Idso, and R. J. Reginato. 1980. Plant Stress Detection by Remote Measurement of Fluorescence. Appl. Optics: 19:3287-3289.

Meyerdirk, D. E., J. B. Kreasky, and W. G. Hart. 1980. Whiteflies (Aleyrodidae) Attacking Citrus in Southern Texas with Notes on Natural Enemies. Southwest. Entomol. (in press).

Jun 16 ...

- Millard, J. P., R. J. Reginato, S. B. Idso, R. D. Jackson, R. C. Goettelman, and M. J. LeRoy. 1980. Experimental Relations Between Airborne and Ground Measured Wheat Canopy Temperatures. Programmetric Engin. & Remote Sensing 46:221-224.
- Musick, J. T., and R. A. Dusek. 1980. Planting Date and Water Deficit Effects on Development and Field of Irrigated Winter Wheat. Agron. J. 74:45-52.
- Nixon, P. R., B. G. Goodier, and W. A. Swanson. 1980. Midday Surface Temperatures and Energy Changes in a Residential Landscape. Proc. Rio Grande Valley Hort. Soc. 34:39.
- Pinter, P. J., Jr., R. D. Jackson, S. B. Idso, and R. J. Reginato. Multidate Spectral Reflectances as Predictors of Yield in Water Stressed Wheat and Barley. International J. of Remote Sensing (in press).
- Reginato, R. J. Remote Assessment of Soil Moisture. Proc. Seminar on Isotope and Radiation Techniques in Soil Moisture. Proc. Seminar on Isotope and Radiation Techniques in Soil Water Studies, Khartoum, Sudan, 1979 (in press).
- Richardson, A. J., D. E. Escobar, H. W. Gausman, and J. H. Everitt. 1980. Comparison of Landsat-2 and Field Spectrometer Reflectance Signatures of South Texas Rangeland Plant Communities. Sixth Annual Symposium Machine Processing of Remote Sensed Data, Purdue University, West Lafayette, IN, June 3-6, 1980.
- Smika, D. E., and Shawcroft, R. W. 1980. Preliminary Study Using a Wind Tunnel to Determine the Effect of Hot Wind on a Wheat Crop. Field Crops Res. 3:129-134.
- Tucker, C. J., J. H. Elgin, Jr., and J. E. McMurtrey, III. 1980. Relationship of Crop Radiance to Alfalfa Agronomic Values. International J. Remote Sensing 1(1):69-75.
- Tucker, C. M., B. N. Holben, J. H. Elgin, Jr., and J. F. McMurtrey, III. 1980. Relationship of Spectral Data to Grain Yield Variation. Photogrammetric Engin. & Remote Sensing 46(5)657-666.
- Tucker, C. J., B. N. Holben, J. H. Elgin, Jr., and J. E. McMurtrey, III. 1980. Remote Sensing of Total Dry-Matter Accumulation in Winter Wheat, NASA Tech. Memo. 80631. January 1980.
- Wiegand, C. L., and J. A. Cuellar. 1981. Direction of Grain Filling and Kernal Weight of Wheat as Affected by Temperature. Crop Sci. 21:94-101.

40 620

- Wiegand, C. G., A. H. Gerbermann, and J. Cuellar. 1981. Development and Yield of Hard Red Winter Wheats Under Semitropical Conditions. Agron. J. 73(1):29-38.
- Wiegand, C. L., P. R. Nixon, H. W. Gausman, L. N. Namken, R. W. Leamer. and A. J. Michardson. 1980. Type III Final Report (Draft) for the contract period December 1, 1977, to September 1, 1980. Heat Capacity Mapping Mission Plant Cover, Soil Temperature, Freeze, Water Stress, and Evapotranspiration Conditions. 116 pp., November 1980.
- Wolf, W. W. November 19, 1980. Entomological Radar Observations in Arizona During 1979. Invitational paper, Joint Meeting Royal Entomological Soc., Royal Meteorological Soc., and British Trust for Ornithology. Imperial College, London, England.
- FAS-CCAD, Technical Memo, November 13, 1981. The Large Area Operational Application of the Winterkill Model Using Realtime Data and Evaluation of the Results.

INVENTORY TECHNOLOGY DEVELOPMENT (ITD)

J. L. Dragg, Project Manager NASA Johnson Space Center/SC4 Houston, Texas 77058 Phone: FTS 525-4017

4

PROJECT: INVENTORY TECHNOLOGY DEVELOPMENT TASK DESCRIPTIONS - 00300

DOCUMENT NOS.	TITLE
MU-L1-00300	NTIS: 82N15493. ERSYS-SPP Access Method Subsystem Design Specification (September 1980)
FC-L1-00310	LIIS: 82X74791. "As-Bui't" Design Specification for Proportion Estimate Processor (November 1981)
FC-L1-00311	NTIS: 82X74793. "As-Built" Design Specification for a P1A Modified Display Subsystem (November 1981)

PROJECT: IT

DOCUMENT NOS.	TITLE
FC-L0-00420 JSC-16301 LEMSC0-14084	NTIS: 80N23744. Corn/Soybeans Decision Logic: Improvements and New Crops (January 1980)
FC-L0-00412 JSC-16338 LEMSCO-14320	NTIS: 80N26718. Evaluation of Transitionn Year Canadian Test Sites (April 1980)
FC-LC-00423 JSC-16339 LEMSCO-14386	NTIS: 81N13432. Evaluation of Results of U.S. Corn and Soybeans Exploratory ExperimentClassification Procedures Verification Test (September 1980)
FC-LO-00428 JSC-16343 LEMSCO-1406,	NTIS: 81N12516. Estimation of Within-Stratum Variance for Sample Allocation (July 1980)
FC-L0-00429 JSC-16246 LEMSCO: 14010	Profile Similarity Feasibility Study (February 1980)
FC-L0-00432 JSC-16346 LEMSCO-14594	NTIS: 80N30848. Statistical Outliner Detection (SOD): A Computer Program for Detecting Outliners In Data (June 1980)
FC-J0-00433 JSC-16347	FCPF February 1980 Task Manager's Report
FC-JO-00436 JSC 16350	Semi-Annual Project Management Report, Program Review Presentation to Level 1, Interagency Coordination Committee (March 1980)
FC-L0-00437 JSC-16351 LEMSCO-14584	NTIS: 81N12480. Houston Area Multicrop Inspection Trips (July 1980)
FC-L0-00451 JSC-16360 LEMSC0-14385	NTIS: 80N30847. The Integrated Analysis Procedure for Identification of Spring Small Grains and Barley (May 1980)
FC-L0-00464 JSC-16368 LEMSC0-14808	NTIS: 81N33565. Australian Transition Year Special Study (January 1981)
FC-J0-00468 JSC-16371	NTIS: 811N12517. Stratum Variance Estimation for Sample Allocation in Crop Surveys (July 1^30)
FC-L0-00472 JSC-16752 LEMSC0-14598	NTIS: 82N23603. Evaluation of the Procedure for Separating Barley From Other Spring Small Grains (August 1980)

PROJECT: IT

deside the Bretter

DOCUMENT NOS.	TITLE
FC-L0-00479 JSC-16379 LEMSC0-14056	NTIS. 82N21651. Transition Year Labeling Error Characterization Study Final Report (October 1980)
FC-L0-00480 JSC-16380 LEMSC0-14811	NTIS: 82N19631. Corn/Soybeans Decision Logic Development and Testing (October 1980)
FC-J0-00486 JSC-16815	NTIS: 81N33572. A Summary of Observations Concerning the Information in the Spectral Temporal-Ancillary Data Available for Estimating Ground Cover Crop Proportions (February 1981)
FC-L0-00493 JSC-16820 LEMSC0-15116	NTIS: 82N19636. Segment-Level Evaluation of the Simulated Aggregation Test: U.S. Corn & Soybean Exploratory Experiment (October 1980)
FC-L0-04000 JSC-16827 LEMSC0-15404	NTIS: 81N31597. A Description of the Reformatted Spring Small Grains Labeling Procedure Used in Test 2, Part 2, of the U.S./Canada Wheat and Barley Exploratory Experiment (February 1981)
FC-J0-04010 JSC-16835	NTIS: 81N21417. Semi-Annual Project Management Report Program Review Presentation to Level 1, Intergency Coordination Committee (November 6, 1980)
FC-L0-04014 JSC-16840 LEMSC0-15612	NTIS: 81N31599. Weather Analysis and Interpretation Procedures Developed for the U.S./Canada Wheat and Barley Exploratory Experiment (November 1980)
IT-L0-04020 JSC-16845 LEMSC0-15643	NTIS: 82N24531. Selection of USSR Foreign Similarity Region (January 1982)
FC-L0-04027 JSC-16847 LEMGC0-15118	NTIS: 81N21419. Identification of USSR Indicator Regions (September 1980)
FC-L1-04030 JSC-16850 LEMSC0-15936	NTIS: 81N29508. Evaluation of Spring Wheat and Barley Crop Calendar Models for the 1979 Crop Year (February 1981)
MU-L1-04055 JSC-17119 LEMSCC-16207	NTIS: 82N19608. Interim Catalog Ground Data Summary Data Acquisition Year 1979 (February 1981)
MU-L1-04056 JSC-17120 LEMSC0-16325	NTIS: 81N33546. Interim Catalog Ground Data Summary Data Acquisition Year 1978 (March 1981)

PROJECT: IT

DOCUMENT NOS.	TITLE
FC-L1-04073 JSC-17129	NTIS: 82N21640. U.S. Corn and Soybeans Exploratory Experiment Summary Report (March 1981)
FC-J1-04087 JSC-17134	Semi-Annual Project Management Report - Program Review Presentation to Level 1 (April 28, 1981)
FC-L1-04093 JSC-17136 LEMSC0-16221	NTIS: 82X74796. Sampling and Aggregation Components Software and Module Descriptions (December 1981)
FC-L1-04096 JSC-17138 LEMSC0-16573	NTIS: 82N23579. 1980 U.S. Corn and Soybeans Exploratory Experiment Final Report (October 1981)
FC-L1-04097 JSC-17140 LEMSC0-16645	NTIS: 82N22594. Country Summary Report - Australia (July 1981)
MU-L1-04100 JSC-17365	PRELIMINARY CATALOG: Ground Data Summary Data Acquisition for 1980 (May 1981)
FC-J1-04108 JSC-16860	NTIS: 82N21653. Enumerator's Manual 1981 Ground Data Survey (January 1981)
FC-L1-04109 Pilot JSC-17151 LEMSCO-16575	NTIS: 82N24541. Fiscal Year 1981 U.S. Corn and Soybeans Experiment Plan, Phase I (December 1981)
FC-J1-04117	FCPF Quarterly Review (March 11, 1981)
FC-L1-04120 JSC-17401 LEMSC0-16663	NTIS: 82N21655. Sample Selection in Foreign Similarity Regions for Multicrop Experiment (August 1981)
FC-P1-04121 NAS 9-15466	NTIS: 82N20590. Evaluation of a Segment-Based Landsat Full-Frame Approach to Crop Area Estimation (June 1981)
MU-L1-04123 JSC-17403 LEMSC0-16938	NTIS: 82X74788. Interim Catalog Ground Data Summary Data Acquisition Year 1977 (July 1981)
FC-L1-04127 JSC-17406 LEMSCU-16921	NTIS: 82N23565. 1980 U.S./Canada Wheat and Barley Exploratory ExperimentSummary Report (July 1981)
FC-J1-04130 JSC-17411	Enumerator's Manual for Australia - 1981 Ground Data Survey (August 1981)

DOCUMENT NOS.	TITLE
IT-L1-04132 JSC-17408 LEMSCO-16874	NTIS: 82N24549. Selection of Argentine Indicator Region (March 1981)
FC-L1-04142 JSC-17417 LEMSCO-16929	NTIS: 82N23582. Description of Historical Crop Calendar Data Base Developed to Support FCPF Project Experiments (October 1981)
FC-L1-04145 JSC-17421 LEMSCO-15682	NTIS: 82N23595. Selection of the Australia Indicator Region (September 1981)
FC-L1-04155 JSC-17427 LEMSCO-15409	NTIS: 82N21654. Development of Rotation Sample Designs for the Estimation of Crop Acreages (September 1981)
FC-L1-04172 JSC-17432 LEMSCO-15944	NTIS: 82N23594. Normal Crop Calendars Volume III: The Corn and Soybean States of Illinois, Indiana, and Idaho (October 1981)
FC-J1-04175 JSC-17433	NTIS: 82N22591. Preliminary Technical Results Review of FY81 Experiments, Vols. I and II (September 1981)
FC-J1-04176 JSC-17435	NTIS: 82N21648. A Gradient Model of Vegetation and Climate Utilizing NOAA Satellite Imagery Phase I: Texas Transect (August 1981)
FC-J1-04181 JSC-17438	NTIS: 82N23604. Semi-Annual Project Management Report - Program Review Presentation to Level 1 Interagency Coordination Committee (November 1981)
FC-L1-04192 JSC-17440 LEMSC0-16935	NTIS: 82N23590. Application of Thermal Model for Pan Evaporation to the Hydrology of a Defined Medium, The Sponge (November 1981)
FC-P1-04197 9-15466	NTIS: 82N21673. Determination of the Optimal Level for NAS Combining Area and Yield Estimates (October 1981)
IT-J1-04199 JSC-17785	NTIS: 82X75092. Information Presented at the Quarterly Project Technical Interchange MeetingJuly 9-10, 1981 (December 1981)
FC-L1-04219 JSC-17806 LEMSC0-16311	NTIS: 82X24554. Evaluation of the Procedure 1A Component of the 1980 U.S./Canada Wheat and Barley Exploratory Experiment (December 1981)
MU-E2-04225 NAS 9-15476	Research and Development of Landsat Based Crop Inventory Techniques (January 1982)

PROJECT: IT

DOCUMENT NOS.	TITLE
IT-L2-04228 JSC-17814 LEMSCO-17153	NTIS: 82N24548. General Multiyear Aggregation Technology: Methodology and Software Documentation (March 1982)
FC-L2-04229 JSC-17815 LEMSCO-16633	NTIS: 82N24556. Evaluation of the U.S./Canada Wheat and Barley Exploratory Experiment Shakedown Test Analyst Labeling Results (December 1981)
IT-E2-04233 NAS -16538	Augmentation of Landsat MSS Data by SEASAT-SAR for Agricultural Application (April 1982)
IT-E2-04235 NAS 9-165°°	NTIS: 82N26751. Association of Spectral Development Patterns with Development Stages of Corm (February 1982)
IT-22-04246 NAS 9-15476	NTIS: 82N32807. Estimating Acreage by Double-Sampling Using Landsat Data: (January 1982)
FC-T2-C4261	NTIS: 82N32797. Incorporating Partially Identified Sample Segments into Acreage Estimation Procedures: Estimates Using Only Observations from the Current Year (December 1981)
IT-J2-04262 JSC-17828	NTIS: 82N77634. Presentation of Information of the Inventory Technology Development Project Quarterly Technical Interchange Meeting, March 24-25, 1982 (April 1982)
IT-J2-04267 JSC-17830	NTIS: 83N12486. Semi-Annual Program Review Presentation to Level 1, Interagency Coordination Committee (April 19, 1982)
IT-J2-04282 JSC-18231	NTIS: 82N32793. Research in Satellite-Aided Crop Inventory and Monitoring (April 1982)
IT-J2-04283 JSC -18232	Shuttle Imaging Radar (SIR-A) An Agricultural Analysis (March 1982)
IT-J2-04296 JSC-18239	Research Advances in Satellite-Aided Crop Forecasting (September 1982)
IT-J2-04297 JSC-18240	Research in Satellite-Aided Crop Forecasting (May 1982)
IT-L2-04304 JSC-18244 LEMSCO-17755	NTIS: 82N32819. Software for the Grouped Optimal Aggregation Technique (February 1982)
1T-E2-04310 NAS 9-16538	NTIS: 83N12501. Analysis of the Profile Characteristics of Corn and Soybean Using Field Reflectance Data (June 1982)

PROJECT: IT

REPORTS - U0400

DOCUMENT NOS.	TITLE
IT-E2-04311 NAS 9-16538	NTIS: 83N12500. SEMI-ANNUAL REPORT: Development, Implementation and Evaluation of Satellite-Aided Agricultural Monitoring System - Semi-Annual Report (June 1982)
IT-T2-04323 NAS 9-14689	NTIS: 83N12505. Missing Observations in Multiyear Rotation Sampling Designs (December 1981)
IT-U2-04332 AGES No. 820526	NTIS: 83N14561. Construction of a Remotely Sensed Area Sampling Frame for Southern Brazil (June 1982)
IT-J2-04359 JSC-18579	Thematic Mapper Performance Assessment in Renewable Resources/Agricultural Remote Sensing - Initial Scene Quick-Look Analysis (September 15, 1982)
IT-E2-04377 NAS 9-16538	FINAL REPORT: Development, Implementation, and Evaluation of Satellite-Aided Agricultural Monitoring System (November 1982)
IT-J2-04378	Semi-Annual Program Review Presentation to Level 1, JSC-18581 Interagency Coordination Committee (November 29, 1982)
IT-L2-04381 JSC-18584 LEMSC0-18650	Summary Report Australia Ground Data Collection 1981/82 Crop Year - Volumes 1 and 2 (Nevember 1982)
IT-L2-04386 JSC-18588 LEMSCO-17763	Technical Summary of Accomplishments Made in Preparation for the U.S.S.R. Barley Exploratory Experiment (December 1982)
IT-L3-04390 JSC-18592 LEMSC0-18387	A Nonparametric Technique which Estimates Both the Number of Clusters and the Assignment of Observations to Clusters (January 1983)
IT-T3-04395 NAS 9-13894	Area Estimation Using Multiyear Designs and Partial Crop Identification FINAL REPORT (January 1983)
IT-L3-04398 JSC-18602 LEMSCO-18629	The 1980 US/Canada Wheat and Barley Exploratory Experiment Final Report (February 1983)

PROJECT: IT

MINUTES - 00500

DOCUMENT NOS.	TITLE
FC-J0-00501 JSC-16356	Minutes of the Semi-Annual Formal Project Manager's Review, February 13, 1980.
FC-J0-00502 JSC-16823	NTIS: 82N19614. Minutes of the Semi-Annual Formal Project Manager's Review Including Preliminary Technical Review Reports of FY80 Experiments (September 24, 1980)
FC-J1-00504 JSC-17787	NTIS: 82X75091. Proceedings of the AgRISTARS FCPF Project Quarterly Technical Interchange Meeting (September 30, 1981)

100 Berlin

DOCUMENT NOS.	TITLE
FC-J0-00600 JSC-16336	U.S./Canada Wheat and Barley Exploratory Labeling Experiment Implementation Plan (January 1980)
FC-L0-00603 JSC-16005 LEMSC0-13481	The Development of a Sampling Strategy for Multicrop Estimation: A Technical Plan (November 1979)
FC-JO-C0604 JSC-16344	Foreign Commodity Productionn Forecasting Project Implementation Plan (January 15, 1980)
FC-B0-00605 NAS 9-14565	Examination of New Sampling and Aggregation Approaches (March 1980)
FC-L0-00608 JSC-16363 LEMSC0-14943	Configuration Management Plan (June 1980)
FC-L0-00609 JSC-16364 LEMSCO-15402	NTIS: 81N12513. Supplemental U.S./Canada Wheat and Barley Exploratory Experiment Implementation Plan: Evaluation of a Procedure 1A Technology (June 1980)
FC 10-00610 JSC-16365	World Fulticrop Test Site Overflights for 1980 Crop Year Implementation Plan (June 1980)
FC-J0-00611 JSC-16812 LEMSCO-15323	NTIS: 82N15494. U.S./Canada Wheat and Barley Crop Calendar Exploratory Experiment Implementation Plan (September 1980)
FC-L0-00612 JSC-16819 LEMSC0-15168	NTIS: 82N15491. Fiscal Year 1980-81 Implementation Plan in Support of Technical Development and Integration of Sampling and Aggregation Procedures (March 1981)
FC-J0-C0614 JSC-16828	FCPF Implementation Plan (FY81 & FY82) (October 1980)
FC-L1-00633 JSC-17405 LEMSCO-16868	NTIS: 82X10190. Fiscal Year 1981-82 U.S./Canada Spring Small Grains Experiment Plan (December 1981)
FC-L1-00634 JSC-17407 LEMSCO-16566	Technical Plan for Developing and Testing a Cloud Cover/ Acquisition History Simulator (July 1981)

PLANS 00600

DOCUMENT NOS.	TITLE
FC-L1-00635 JSC-17409 LEMSC0-16933	NTIS: 82X74786. Technical Plan for Testing The Automated Pixel Screening Procedures (October 1981)
FC-L1-00639 JSC-17607 LEMSCO-17173	NTIS: 82X74785. Australia Ground Data Collection Detailed Plan for 1981/82 Crop Year (September 1981)
FC-J1-C0640 JSC-1~425	FCPF Project Implementation Plan for Fiscal Years 1982 and 1983 (September 30, 1981)
IT-J2-C0654 JSC-18270	ITD Project Implementation Plan for Fiscal Year 1983 (September 15, 1982)

PROJECT: IT PROCEDURES - 00700

DOCUMENT NOS.	TITLE
FC-L0-00700 JSC-16399 LEMSC0-14080	NTIS: 80N30862. Maximal Analysis Labeling Procedure (Preliminary) (February 1980)
FC-E1-00712 NAS 9-15476	NTIS: 81N29504. User's Guide for the U.S. Baseline Corn and Soybean Segment Classification Procedure (March 1981)
TC-L1-00714 JSC-17141 LEMSCO-16850	NTIS: 82N21645. FCPF Project Communications Documentation Standards Manual (June 1981)
FC-L1-00715 JSC-17154 LEMSC0-16852	NTTIS: 82N22542. Volume I: Project Procedures, Designation, and Description Document (June 1981)
FC-L1-00718 JSC-17155 LEMSC0-16851	NTIS: 82N21639. Volume I: Project Test Reports Document (June 1981)
IT-E1-00721 NAS 9-15476	NTIS: 82X10189. Operator's Manual for the Analyst Handbook for the Augmented U.S. Baseline Corn and Soybean Segment Classification Procedure (CS-1A) (October 1981)
IT-E1-00723 NAS 9-15476 NAS 9-14565	NTIS: 82X74778. Analyst Handbook for the Augmented U.S. Baseline Corn and Soybean Segment Classification Procedure (CS-1A) (October 1981)
IT-J2-00738 JSC-17813	NTIS: 82X75093. User's Guide to the CS2 Automated Corn/Soybean Labeling Procedure (January 1982)
IT-J2-00742 JSC-18230	User's Guide to the C/S-2B Corn/Soybean Proportion Estimation Procedure (April 1982)
IT-L2-00745 JSC-18248 LEMSC0-18241	Software Documentation Guidelines (May 1982)
IT-L2-00746 JSC-18249 LEMSC0-18238	Data Base Configuration Managemert Guidelines (May 1982)
IT-L2-00747 JSC-18250 LEMSC0-18239	Software Configuration Management Guidelines (May 1982)
IT-L2-00748 JSC-18251 LEMSC0-18240	Software Development Guidelines (May 1982)

PROJECT: IT

PROCEDURES - 00700

DOCUMENT NOS.	TITLE
IT-L2-00752 JSC-18263 LEMSC0-17542	Development and Description of CAESAR (SSG-3B/C) A Machine-Based Proportion Estimation Procedure (August 1982)
IT-L3-00758 JSC-18587 LEMSC0-19006	Early Season Task Program Maintenance Manual (January 1983)
IT-L3-00763 JSC-18603 LEMSCO-18559	Crop Proportion Ground-Truth Simulator (ProSim) and Crop Proportion Estimate Simulator (EstSim): Software Documentation, Technical Description, and User Guide (February 1983)

PROJECT: IT

- Baker, T. C., J. H. Smith, and J. T. Malin. Update on a System for Large Area Crop Inventory from Remotely Sensed Data. September 1982. LARS 8th International Symposium.
- Christ, E. P. Cultural and Environmental Influences on the Temporal-Spectral Development Patterns of Corn and Soybeans. September 1982. LARS 8th International Symposium.
- Cicone, R. C., and M. D. Metzleer. Comparison of Landsat MSS, Nimbus 7 CZCS, and NOAA 6/7 AVHRR Features for Land Use Analysis. September 1982. LARS 8th International Symposium.
- Dailey, C. L. and G. M. Chapman. Automated Pixel Screening and Selection. September 1982. LARS 8th International Symposium.
- Dennis, T. B., R. B. Cate, C. V. Nazare, M. M. Smyrski, and T. C. Baker. SSG-4--An Automated Spring Small Grains Proportion Estimator. September 1982. LARS 8th International Symposium.
- Duggin, M. J., L. Schoch, and D. Piwinski. The Effects of Random and Systematic Variations in Unresolved Cloud on Recorded Radiance and on Target Discriminability. January 1983.
- Hay, C. N. October 1980. Remote Sensing Measurement Techniques for Use in Crop Inventories. Remote Sensing for Resource Management Conference, Kansas City, MO. Sponsored by Soil Conservation Society of America, NASA, USDA, NOAA, USGS, etc.
- Hixon, M. M., B. J. Davis, and M. E. Bauer. Sampling Landsat Classifications for Crop Area Estimation. Photogrammetric Engineering and Remote Sensing, Vol. 47, No. 9, September 1981, pp. 1343-1348.
- Horvath, R., R. C. Cicone, R. J. Kauth, and W. A. Malila. Analysis of Scanner Data for Crop Inventories Progress Report, February 15-June 30, 1981.
- Metzler, M. D., R. C. Cicone, and K. I. Johnson. The Evaluation of a Semi-Automated Procedure for Classifying Corn and Soybeans without Ground Data. September 1982. LARS 8th International Symposium.
- Mohler, R. R. J., W. F. Palmer, M. M. Smyrski, C. V. Nazare, and T. C. Baker. Development, Test and Evaluation of a Computerized Procedure for Using Landsat Data to Estimate Spring Small Grains Acreage. September 1982. LARS 8th International Symposium.
- Odenweller, J. B. and K. I. Johnson. Crop Identification Using Landsat Temporal-Spectral rrofiles. September 1982. LARS 8th International Symposium.
- Payne, R. W. Sonora Exploratory Study for the Detection of Wheat-Leaf Rust. November 1980. NTIS: N82-21661.

UNNUMBERED DOCUMENTS - 00900

PROJECT: IT

Rice, D., M. Metzler, and O, Mykoenka. 1981. An Image Processing System. Seventh International Symposium on Machine Processing of Remotely Sensed Data, Purdue/LARS University, W. Lafayette, IN.

Smith, J. H., C. C. Lin, M. Dvorin, and J. T. Malin. Acquisition History Simulation for Evaluation of Landsat-Based Crop Inventory Systems. September 1982. LARS 8th International Symposium.

YIELD MODEL (YM)

R. Ambrozíak, Project Manager

NOAA/EDIS Page 2, Rm 140 3300 Whitchaven St., ... Washington, DC 20235

Phone FTS 634-7288

43

INSTRUCTIONS - 00100

PROJECT: YILLD MODEL (YM)

DOCUMENT NOS.	TITLE
MU-J0-00100	NTIS: 82N19629. Yield Model Development/Soil Moisture
JSC-16841	Interface Control Document (November 1980)
MU-J0-00102	Yield Model Development/Early Warning and Crop Condition
JSC-16843	Assessment Interface Control Document (November 1980)

The state of the s

DOCUMENT NOS.	TITLE
YM-I1-04095 USDA/ESS Staff AGESS81U304	Evaluation of "Straw Man" Model 1, The Simple Linear Model for Scybean Yields in Iowa, Illinois, and Indiana (March 1981)
YM-N1-04198	NTIS: 82N21656. Development of a Surface Isolation Estimation Technique Suitable for Application of Polar-Orbiting Satellite Data (November 1981)
YM:-U2-04245 AGES820428	Estimating Daily Advective Contributions to Potential Evapotranspiration (May 1982)
YM-U2-04281 JSC-18229	NTIS: 82N32789. A Model for the Simulation of Growth and Yield in Winter Wheat (August 1981)
YM-U2-04286 JSC-18233	NTIS: 83N13535. Evaluation of the Williams-Type Spring Wheat Model in North Dakota and Minnesota (January 1982)
YM-U2-04287 JSC-18234	NTIS: 83N14569. Evaluation of the Williams-Type Model for Barley Yields in North Dakota and Minnesota (December 1981)
YM-U2-04288 JSC-18235	Evaluation of the CEAS Model for Barley Yields in North Dakota and Minnesota (December 1981)
YM-U2-04289 JSC-18236	Comparison of CEAS and Williams-Type Models for Spring Wheat Yields in North Dakota and Minnesota (March 1982)
YM-U2-34290 JSC-18237	NTIS: 83%14565. Comparison of the CEAS and Williams-Type Barley Yield Models for North Dakota and Minnesota (March 1982)
YM-12-04306 JSC-18245	NTIS: 83N12483. Second Generation Crop Yield Models Review (March 1982)
YM-12-04321	NTIS: 83N14568. Crop Weather Models of Barley and Spring Wheat Yield for Agrophysical Units in North Dakota (June 1982)
YM-12-04348	NTIS: 83N14563. Crop Weather Models of Corn and Soybeans for APU/s in Iowa Using Monthly Met Predictors (September 1982)
YM-12-04364 JSC-18575	Evaluation of the CEAS Trend and Monthly Weather Data Models for Soybean Yields in Iowa, Illinois, and Indiana (October 1982)
YM-12-04365 JSC-18576	Evaluation of Thompson-Type Trend and Monthly Weather Data Models for Corn Yields in Iowa, Illinois, and Indiana (October 1982)

REPORTS - 00400

DOCUMENT NOS.

Ti.LE

YM-13-04419

Comparison of CRD, APU, and State Models for Iowa Corn and Soybeans and North Dakota Barley and Spring Wheat (May 1983)

PLANS - 00600

DOCUMENT NOS.	TITLE
YM-J0-C0616 JSC-16851	Yield Model Development Project Implementation Plan (1980)
YM-J1-C0618 JSC-16857	NTIS: 81N32577. Yield Model Development Implementation Plan (1981)
YM-J1-C0642 JSC-17436	Yield Model Development Project Implementation Plan for FY82 and 83
YM-U2-CU655 JSC-18564	Yield Model Development Project Implementation Plan for Fiscal Year 1983 (September 15, 1982)

PROCEDURES - 00700

DOCUMENT NOS.	TITLE
YM-J1-00710 JSC-16856	Yield Model Development Documentation Publication Procedure (February 1981)
YM-L2-00736 JSC-17808 LEMSC0-17642	Grided Meteorological Data Extraction System, GMDES, User's Guide (November 1981)
YM-U2-00737 JSC-17811	Extraction Procedures and Requirements for Gridded Air Force Meteorological Data (February 1982)
YM-U2-00740 JSC-18228	User's Appraisal of Yield Model Evaluation Criteria (March 1982)
YM-U2-00739 JSC-17819	Procedures and Requirements for Evaluation of U. S. Air Force AGROMET Data (March 1982)

- Aase, J. K., and F. H. Siddoway. 1979. Crown-Depth Soil Temperatures and Winter Projection for Winter Wheat Survival. Soil Sci. Soc. Amer. J. 43:1229-1233.
- Aase, J. K., and F. H. Siddoway. 1980. Stubble Height Effects on Seasonal Microclimate, Water Balance and Plant Development of No-Till Winter Wheat. Agric. Metecrol. 21:1-20.
- Aase, J. K., and F. H. Siddoway. 1980. Determining Winter Wheat Stand Densities Using Spectral Reflectance Measurements. Agron. J. 72:139-152.
- Aase, J. K., and F. H. Siddoway. 1980. Assessing Winter Wheat Dry Matter Production Via Spectral Reflectance Measurements. Remote Sensing of Environment (in press).
- Aase, J. K., and F. H. Siddoway. 1981. Microclimate of Winter Wheat Grown in Three Standing Stubble Heights. The Tillage Symposium, North Dakota State University, Fargo (accepted May 30, 1980)
- Aase, J. K., and F. H. Siddoway. 1981. Spring Wheat Yield Estimates from Spectral Reflectance Measurements. IEEE Trans. on Geoscience and Remote Sensing (in press).
- Baker, D. N. 1980. Simulation for Research and Crop Management. In Proc. World Soybean Research Conference II. March 26-29, Raleigh, NC. F. T. Corbin, ed. pp. 533-546.
- Baker, D. N., L. H. Allen, Jr., and J. R. Lamber. 1980. Effects of Increased CO₂ on Photosynthesis and Agricultural Productivity. A commissioned paper for AAAS-DOE Proj. Environmental and Societal Consequences of a CO₂ Induced Climate Change. Roger Revelle, Chairman, Project Steering Group. III. Effects on Agriculture and the Managed Biosphere. Manager, Sylvan H. Wittwer. 107 pp. (in press)
- Baker, D. N., and J. R. Lamberr. 1980. The Analysis of Crop Responses to Enhanced Atmospheric CO₂ Levels. In report of the workshop on Environmental and Societal Consequences of a Possible CO₂ Induced Climate Change. Amer. Assoc. Advance. Science meeting, Annapolis, MD. pp. 275-294.
- Baker, D. N., J. A. Landivar, and J. R. Lamber. 1980. Model Simulation of Fruiting. In Proc. of Cotton Prod. Res. Confs., Phoenix, AZ, January 7-12, 1979. pp. 261-264.
- Baker, D. N., J. A. Landivar, F. D. Whisler, and V. R. Reddy. 1980. Plant Responses to Environmental Conditions and Modeling Plant Development. In Proc. Weather and Agricultural Sympos. W. L. Decker, ed. pp. 69-.
- Barnett, Thomas L., Clarence M. Sakamoto, and Wendell W. Wilson. 1980. Identification of Candidate Yield Models for Testing and Evaluation in Support of FY81 Domestic Pilot Tests. YMD-1-2-9 (80-8.1).

- Bauer, A. 1980. Responses of Tall and Semi-dwarf Hard Red Spring Wheats to Fertilizer Nitrogen Rates and Water Supply in North Dakota, 1969-1974. North Dakota Agr. Expt. Station Bull. 510, 112 pp.
- Bhattacharyay, B. N. 1980. Crop Yield Model Test and Evaluation, A Statistical Approach. Department of Statistics, University of Missouri-Columbia.
- Denison, R. F. 1980. A Nondestructive Field Assay for Nitrogen Fixation (Acetylene Reduction). M. S. Thesis, Cornell University, 51 pp.
- Doering, E. J., and W. O. Willis. 1980. Effect of Soil-Solution Concentration on Cation-Exchange Relations. In ISSS International Printers, New Delhi, India. pp. 129-133.
- Douglas, C. L., Jr., R. R. Allmaras, P. E. Rasmussen, R. E. Ramig, and N. C. Roager, Jr. 1980. Wheat Straw Composition and Placement Effects on Decomposition in Dryland Agriculture of the Pacific Northwest. Soil. Sci. Soc. Amer. J. 44:833-837.
- Douglas, C. L., Jr. 1980. Temperature and Moisture Effects on Decomposition of Wheat Straws with Different N and S Contents. Iin 1980 Research Report Columbia Basin Agr. Res. Spec. Report 571. Oregon Agric. Expt. Sta., Corvallis, pp. 68-72.
- Idso, S. B., R. D. Jackson, P. J. Pinter, Jr., R. J. Reginato, and J. L. Hatfield, 1981. Normalizing the Stress-Degree-Day Parameter for Environmental Variability. Agric. Meteorology (in press).
- Idso, S. B., R. J. Reginato, J. L. Hatfield, G. K. Walker, R. J. Jackson, and P. J. Pinter, Jr. 1980. A Generalization of the Stress-Degree-Day Concept of Yield Prediction to Accommodate a Diversity of Crops. Agric. Meteorology 21:205-211.
- Jackson, R. D., P. J. Pinter, Jr., R. J. Reginato, and S. B. 150. 1980. Handheld Radiometry. Agric. Reviews and Manuals W-19. U.S. Department of Agriculture, SEA-AR Western Region Publ. pp. 66.
- Jones, C. A. 1980. A Review of Evapotranspiration Studies in Irrigated Sugarcane. Hawaiian Planters' Record 59:195-214.
- Jones, C. A., and A. Carabaly. 1980. Estimation of Leaf Water Potential in Tropical Grasses with a Campbell-Brewster Hydraulic Press. Trop. Agric. Trinidad, 57:305-307.
- Jones, C. A., D. Pena, and A. Carabaly. 1980. The Effects of Plant Water Potential, Leaf Diffusive Resistance, Rooting Density, and Water Use on the Dry Matter Production of Several Tropical Grasses During Short Periods of Drought Stress. Trop. Agric., Trinidad, 57:211-221.
- Jung, Y. 1980. Water Uptake and Transport of Soybeans as a runction of Rooting Patterns. Ph.D. Dissertation submitted to Iowa State University. 189 pp.

- Kanemasu, E. T., and J. T. Ritchie. 1980. Minimizing Stress in Crop Production: Climate and Weather. J. National Fert. Assoc. Solutions, 24(6):98-104.
- Kestle, R. A. 1981. Analysis of Crop Yield Trends and Development of Simple Corn and Soybean "Straw Man" Models for Indiana, Illinois, and Iowa. YMD-2-11-1(80-11.1).
- Klepper, B. 1981. Axial Resistances to Flow in Root Systems. Efficient Water Use in Crop Production, Amer. Soc. Agron. Monograph (in press).
- Klepper, B., and R. W. Rickman. 1980. Competition Among Tillers in Winter Wheat. The Wheat Grower, 3(2):53.
- Klepper, B., R. W. Rickman, and C. M. Peterson. 1980. The Wheat Plant. Mid-Columbia Cereals Conf. Proc., February 5, 1980. T. N. Zinn, ed. The Dalles, Oregon. pp. 1-8.
- Klepper, B., R. W. Rickman, and C. M. Seterson. 1980. Relationships Between Leaf and Tiller Production in 'Stephens' Winter Wheat. Plant Physiol. Suppl. 65:133.
- Kimes, D. S., B. L. Markham, C. J. Tucker, and J. E. McMurtrey, III. 1981. Temporal Relationships Between Spectral Response and Agronomic Variables of a Corn Canopy. Remote Sensing of Environment (submitted August 1980).
- Kogan, F. J. 1981. Geographical Aspects of Climate and Weather Limitations for Cereal Production in the USA.
- Leamer, R. W., J. R. Noriega, and A. H. Gerbermann. 1980. Reflectance of Wheat Cultivars as Related to Physiological Growth Stages. Agron. J., 72:1029-1032.
- LeDuc, S. K. 1980. Corn Models for Iowa, Illinois, and Indiana. CLAS, Columbia, Missouri.
- LeMaster, E. W., J. E. Change, and C. L. Wiegand. 1980. A Seasonal Verification of the Suits Spectral Reflectance Model for Wheat. Photog. Eng. and Remote Sensing 46(1):107-114.
- Lemon, E. R., and R. VanHoutte. 1980. Ammonia Exchange at the Land Surface. Agron. J. 72:876-883.
- Lugg, D. G., and T. R. Sinclair. 1980. Seasonal Change in Morphology and Anatomy of Field-Grown Soybean Leaves. Crop Sci. 20:191-196.
- Mann, J. E., G. L. Curry, D. W. CeMichele, and D. N. Baker. 1980. Light Penetration in a Row-Crop with Random Plant Spacing. Agron. J. 72:131-142.

- Markham, B. L., D. S. Kimes, C. J. Tucker, and J. E. McMurtrey, III. 1981. The Relationship of Temporal Spectral Response of a Corn Canopy to Grain Yield and Final Dry Matter Accumulation. NASA Tech. Memo (submitted November 1980).
- Mason, W., et al. 1980. Soybean Row Spacing and Soil Water Supply: Their Effects on Growth, Development, Water Relationship, and Mineral Uptake. U.S. Department of Agriculture, SEA/AR North Central Region Publ. AAT-NC-5. 59 pp.
- McKinion, J. M. 1980. Dynamic Simulation: A Positive Feedback Mechanism for Experimental Research in Biological Science. Agric. Systems 5:239-250.
- Meyer, W. S., and J. T. Ritchie. 1980. Resistance to Water Flow in the Sorghum Plant. Plant Physiol. 65(1):33-39.
- Meyer, W. S., and J. T. Ritchie. 1980. Water Status of Cotton as Related to Taproot Length. Agron. J. 72(4):577-580.
- Moeschberger, M. D. 1980. Model Testing and Evaluation. Department of Statistics, University of Missouri Columbia.
- Motha, R. P. 1980. Barley Models for North Dakota and Minnesota. NOAA. Columbia, Missouri.
- Motha, R. P. 1980. Soybean Models for Iowa, Illinois, and Indiana. NOAA. Columbia, Missouri.
- Musick, J. T. and D. A. Dusek. 1980. Planting Data and Water Deficit Effects on Development and Yield of Irrigated Winter Wheat. Agron. J. 72:45-52.
- Parsons, J. E., C. J. Phene, D. N. Baker, J. R. Lambert, and J. M. McKinion. 1980. Soil Water Stress and Photosynthesis in Cotton. Physiologia Plantarum 47:185-189.
- Peterson, C. M., R. W. Rickman, and B. Klepper. 1980. The Influence of Light on Leaf and Tiller Development in Winter Wheat. Plant Physiol. 65:133.
- Pinter, P. J., Jr., R. D. Jackson, S. B. Idso, and R. J. Reginato. 1981.
 Multidate Spectral Reflectances as Predictors of Yield in Water Stressed
 Wheat and Barley. International J. of Remote Sensing (in press).
- Rasmussen, P. E., D. E. Wilkins, and R. W. Rickman. 1980. Effect of Starter Fertilizer Solutions in Wheat Emergence, Stand, and Fall Growth. 1980 Res. Report Columbia Basin Agric. Res., Spec. Report 571. Oregon Agric. Expt. Sta., Corvallis. pp 48-52.

Sand France

- Richardson, A. J., D. E. Escobar, H. W. Gausman, and J. H. Everitt. 1980. Comparison of Landsat-2 and Field Spectrometer Reflectance Signatures of South Texas Rangeland Communities. Sixth Annual Symposiums Machine Processing of Remotely Sensed Data, Purdue University, West Lafayette, IN, June 2-6, 1980. Inst. Elect. and Electron. Engin. Catalog No.
- Rickman, R. W., and B. L. Klepper. 1980. Wet-Season Aeration Problems Beneath Surface Mulches in Dryland Wheat Production. Agron. J. .5:733-736.
- Rickman, R. W., B. L. Klepper, and C. M. Peterson. 1980. Tiller Production by Stephens Wheat. 1980 Res. Report Columbia Basin Agric. Res. Spec. Report 571. Oregon Agric. Expt. Sta., Corvallis, pp 78-82.
- Righes, A. A. 1980. Water Uptake and Root Distribution of Soybean, Grain Sorghum, and Corn. Ph.D. dissertation submitted to Iowa State University. 125 pp.
- Ritchie, J. T. 1980. Plant Stress Research and Crop Production: The Challenge Ahead. In Adaptation of Plants to Water and High Temperature Stress. N. C. Turner and P. J. Kramer, editors. John Wiley & Sons, Inc. 21-29.
- Samet, J. S., and T. R. Sinclair. 1980. Leaf Senescence and Abscisic Acid in Leaves of Field-Grown Soybeans. Plant Physiol. 66:1163-1168.
- Sinclair, T. R. 1980. Leaf CER from Post-Flowering to Senescence of Field-Grown Soybean Cultivars Crop Science 20:196-200.
- Sinclair, T. R. 1980. Plant Organ Chambers in Field Plant Physiology Research. Hort. Sci. 15:620-623.
- Sinclair, T. R., J. G. Lugg, and S. C. Spaeth. 1980. Comparative Fixation and Utilization of Carbon and Nitrogen Among Soybean Genotypes. In Advances in Legume Science. R. J. Summerfield and A. H. Bunting, editors. Royal Botanic Gardens, Kew, England. pp. 313-322.
- Snyder, J. R., M. D. Skold, and W. O. Willis. 1980. Economics of Snow Management for Agriculture in the Great Plains. J. Soil and Water Conserv. 35:21-24.
- Strand, B. W. 1981. Spatial Scale of Crop-Yiela Models. A Review of the Relationship Between Scale of Models and Accuracy. USDA, ESS, SRD. ESS Staff Report AGESS 810320.
- Thompson, W. A., Jr. 1980. On Model Testing and Evaluation. Department of Statistics, University of Missouri Columbia.
- Tucker, C. J., J. Elgin, Jr., and J. E. McMurtrey, III. 1980. Relationship of Crop Radiance to Alfalfa Agronomic Values. International J. Remote Sensing 1(1):69-75.

The same of the sa

- Tucker, C. J., B. N. Holben, J. H. Elgin, Jr., and J. E. McMurtrey, III. 1980. Relationship of Spectral Data to Grain Yield Variation. Photogrammetric Engin. and Remote Sensing 46(5):657-666.
- Tucker, C. J., B. N. Holben, J. H. Elgin, Jr., and J. E. McMurtrey, III. 1980. Remote Sensing of Total Dry-Matter Accumulation in Winter Wheat. NASA Tech. Memo. 80631.
- Wang, J. R., J. C. Shiue, and J. R. McMurtrey, III. 1980. Microwave Remote Sensing of Soil Moisture Content Over Bare and Vegetated Fields. NASA Tech. Memo. 80669.
- Wang, J. R., J. C. Shiue, and J. E. McMurtrey, III. 1980. Microwave Remote Sensing of Soil Moisture Content Over Bare and Vegetated Fields. Geophysical Res. Letters. 7(10):801-804.
- Wiegand, C. L., and J. A. Cuellar. 1981. Direction of Grain Filling and Kernal Weight of Wheat as Affected by Temperature. Crop Sc. 21:95-101.
- Wiegand, C. L., A. H. Gerbermann, and J. A. Cuellar. 1981. Development and Yield of Hard Red Winter Wheat Under Subtropical Conditions. Agron. J. 73(1):29-38.
- Willis, W. O. 1980. Water Conservation for Semiarid Rangelands. In Proc. International Atomic Energy Agency Advisory Group meeting on Use of Nuclear Techniques in Improving Pasture Management (co-sponsored by ICARDA), Vienna, Austria (in press).
- Yule, D. F., and J. T. Ritchie. 1980. Soil Shrinkage Relationships of Texas Vertisols. I. Small Cores. Soil Sci. Soc. Amer. J. 44(6):1285-1291.
- Yule, D. F., and J. T Ritchie. 1980. Soil Shrinkage Relationships of Texas Vertisols. II. Large Cores. Soil Sci. Soc. Amer. J. 44(6):1291-1295.

SUPPORTING RESEARCH (SR)

F. G. Hall, Project Manager

NASA Johnson Space Center/SC3 Houston, Texas 77058 Phone: FTS 525-4505

70.00

1

•

. . .

PROJECT: SUPPORTING RESEARCH (SR)

TITLE DOCUMENT NOS.

SR-I1-00201 NAS 9-14350 Crop Calendar Preprocessor Requirements Document (May 1981)

REQUIREMENTS - 00200

DUCUMENT NOS.	TITLE
MU-I1-00300	NTIS: 85N15493. ERSYS-SPP Access Method Subsystem Design Specification (September 1980)
SR-L1-00301 JSC-17389 LEMSCO-16676	NTIS: 82N21637. "A3-ELilt" Design Specification for UNIV for VEC (May 1981)
SR-L1-00302 JSC-17390 LEMSCO-16677	NTIS: 82N21642. "As-Built" Design Specification for PARCLS (May 1981)
SR-L1-00303 JSC-17370 LEMJCO-16648	NTIS: 82N22539. "As-Built" Design Specification for the CLASFYT Program (May 1981)
SR-L1-00304 JSC-17369 LEMSCO-16649	NTIS: 82N21644. "As-Built" Design Specification for the CLASFYG Program (May 1981)
SR-L1-0G305 JSC-17371 LEMSCO-16650	NTIS: 82N21641. "As-Built" Design Specification for PARHIS (April 1981)
SR-L1-00306 JSC-17037 LEMSCO-15937	NTIS: 82N21646. "As-Built" Design Specification for Segment Map (SGMAP) Program (December 1980)
SR-L1-00307 JSC-17231 LEMSC0-16300	NTIS: 82N21643. "As-Built" Design Specification for MISMAP (February 1981)
SR-L1-00308 JSC-17305 LEMSCO-16544	NTIS: 82N22543. "As-Built" Design Specification for PARPLT (April 1981)
SR-L1-00309 JSC-17414 LEMSCO-16854	NTIS: 82N23608. Description of the Fortran Implementation of the Spring Grains Planting Date Distribution Mode; (August 1981)
SR-L2-00312 JSC-17810 LEMSCO-17606	NTIS: 82X74790. "As-Built" Design Specification for GTPURE (January 1982)
SR-12-00313 NAS 9-14350	NTIS: 82X74792. ERSYS Registration Subsystem Detailed Design Specification (September 1981)
SR-I2-00314 JSC-16921 NAS 9-14350	ERSYS User Interface Subsystem Design Specification (October 1981)

DOCUMENT NOS.	TITLE
SR-L3-00315 JSC-18605 LEMSCO-18920	"As Built" Design Specification for the Accuracy Assessment Software Package for the NAS-3000 Computer (March 1983)
SR-I9-00400 NAS 9-14350	Experimental Design Considerations for Analyst and Segment Effects in Crop Proportion Estimates (November 1979)
SR-19-00401 NAS 9-14350	Crop Classification with Landsat Multispectral Scanner Data II (November 1979)
SR-T9-00402 NAS 9-14689	NTIS: 80N18526. FINAL REFORT: Development and Evaluation of Clustering Procedures (November 1979)
SR-J9-00403	Inform : Progress Review (November 30, 1979)
SR-E9-U0404 ₁ NAS 9-15476 ¹	NTIS: 80N18506. FINAL REPORT: Development of Landsat Based Technology for Crop Inventories (December 1979)
SR-E9-00404 ₂ NAS 9-15476 ²	NTIS: 80N18507. FINAL REPORT: Development of Landsat Based Technology for Crop Inventories: Appendices (December 19/9)
SR-L9-00405 JSC-16320 LEC-13791	NTIS: 80N23748. Crop Yield Literature Review for AgRISTARS Crop Corn/Soybeans/Wheat/Barley/Sorghum/Rice/Cotton/Sunflowers (December 1979)
SR-L0-00407 JSC-13773 LEC-1425C	NTIS: 80N29824. Composition and Assembly of A Spectral Data Base for Curn and Soybean Multicrop Segments (June 1980)
C"-L0-00408 JSC-16298 LEC-14077	Quantitative Estimation of Plant Characteristics Using Spectral Measurement: A Survey of The Literature (January 1980)
SR-L9-00409 JSC-16088 LEC-13722	NTIS: 82N19610. Crop Phenology Literature Review for Corn, Soybean, Wheat, Barley, Sorghum, Rice, Cotton, and Sunflower (November 1979)
SR-P9-00410 NAS 9-15466 Yol. I	NTIS: 80N23740. FINAL REPORT: Agricultural Scene Understanding and Supporting Field Research (November 1979)
SR-P9-00411 NAS 9-15466 Vol. II	NTIS: 80N23741. FINAL REPORT: Processing Techniques Development Part 1: Crop Inventory Techniques (November 1979)
SR-P9-00412 NAS 9-15466 Vol. III	NTIS: 80N23742. FINAL REPORT: Processing Techniques Development Part 2: Data Preprocessing and Information Extraction Techniques (November 1979)

DOCUMENT NOS.	TITLE
SR-P9-00413 NAS 9-15466 Vol. IV	NTIS: 8GN23743. FINAL REPORT: Computer Processing Support (November 1979)
SR-P9-00414 NAS 9-15466	NTIS: 80N30823. FINAL REPORT: Annual Technical Summary (November 1979)
SR-L0-00416 JSC-16309 LEMSC0-14070	NTIS: 80N23726. Variability of Crop Calendar Stage Dates (January 1980)
SR-L0-00417 JSC-16273 LEC-14069	NTIS: 80N23747. Composition and Assembly of a Spectral Data Base for Transition Year Spring Wheat Blind Sites, Volume I (January 1980)
SR-LU-00418 JSC-13776 LEMSCO-13499	Interpretation of Landsat Digital Data Using a Cubic Color Model Based on Relative Energies (February 1980)
SR-L0-00419 JSC-16335 LEMSC0-14310	Utilization of Spectral-Spatial Information In The Classification of Imagery Data (June 1980)
SR-J0-00421	January 1980 Supporting Research Task Manager's Report (January 31, 1980)
SR-L0-00424 JSC-16334 LEMSC0-14278	NTIS: 80N26735. Label Identification From Statistical labulation (LIST) Temporal Extendability Study (February 1980)
SR-L0-00425 JSC-16341 LEMSCU-14357	NTIS: 80N30861. A Labeling Technology for Landsat Imagery (May 1980)
SR-IO-00426 NAS 9-14350	FINAL REPORT: Procedure M System Description Document (October 1979)
SR-L0-00427 JSC-16342 LEMSCO-14356	NTIS: 80N30856. Estimation of Probabilities of Label Imperfections and Correction of Mislabels (March 1980)

DOCUMENT NOS.	TITLE
SR-L0-00430 JSC-16345 LEMSC0-14390	NTIS: 80N27764. Label Identification from Statistical Tabulation (LIST) Application of RIDIT Analysis (March 1980)
SR-P0-00431 NAS 9-15466	NTIS: 80N26721. Physiocochemical, Site, and Bidirectional Reflectance Factor Characteristics of Uniformly Moist Soils (February 1980)
SR-89-00434 NAS 9-14565	FINAL REPORT: Development of AI Procedures for Dealing with the Effects of Episodal Events on Crop Temporal-Spectral Response and Development of AI Guidelines for Corn & Soybean Labeling (November 1979)
SR-J0-00435 JSC-16349	Semi-Annual Project Management Report (March 1980)
SR-J0-00438 JSC-16353	NTIS: 80N30860. AgRISTARS Cropping Practices and Crop Characteristics Based on 1979 ESCS Observations (April 1980)
SR-L0-06440 JSC-16355 LEMSCO-14597	NTIS: 80N29820. Some Approaches to Optimal Cluster Labeling of Aerospace Imagery (April 1980)
SR-L0-00442 JSC-16358 LEMSC0-14670	MTIS: 80N30863. An Explorratory Study to Develop a Cluster-Based Area Estimation Procedure (May 1980)
SR-P0-00443 NAS 9-15466	NTIS: 80N26716. Contextual Classification of Multispectral Image Data (January 1980)
SR-P0-00444 NAS 9-14566	NTIS: 80N26723. Context Distribution Estimation for Contextual Classification of Multispectral Image Data (April 1980)
SR-I0-00445 NAS 9-14350	Spatial-Spectral Procedure Development: The Purity Experiment (April 1980)
SR-L0-00450 JSC-16359 LEMSCO-14673	Crop Calendars for the U.S., USSR, and Canada in Support of The Early Warning Project (July 1980)
SR-10-00452 NAS 9-14350	Purity Data Report (April 14, 1980)

DOCUMENT NOS.	TITLE
SR-L0-00453 JSC-16361 LEMSC0-14355	NTIS: 80N30871. Evaluation of Bayesian Sequential Proportion Estimation Using Analyst Labels (May 1980)
SR-P0-00454 NAS 9-15466	NTIS: 80N29814. Pixel Labeling by Supervised Probablistic Relaxation (February 1980)
SR-P0-00455 NAS 9-15466	On The Accuracy of Pixel Relaxation Labeling (March 1980)
SR-L0-00456 JSC-16538 LEMSC0-14672	NTIS: 80N30870. Evaluating the Use of Analyst Labels in Maximum Likelihood Cluster Proportion Estimation (April 1980)
SR-J0-00457 JSC-16504	Interpolation of Daily and Monthly Precipitation and Temperature Using the Wagner Variational Analysis Technique (March 1980)
SR-P0-00458 NAS 9-15466	Effects of Management Practices on Reflectance of Spring Wheat Canopies (May 1980)
SR-EN-00459 NAS 9-15476	An Algorithm for Estimating Crop Calendar Shifts of Spring Smail Grains Using Landsat Spectral Data (June 1980)
SR-L0-00460 JSC-16362	NTIS: 80N29819. Sampling of Rectangular Regions (June 1980)
SR-I0-00461 NAS 9-14350	Multispectral Data Analysis Based on Ground Truth Crop Classes (June 1980)
SR-L0-00465 JSC-16754 LEMSC0-15163	Proportion Estimation Using Prior Cluster Purities (July 1980)
SR-L0-00467 JSC-16370 LEMSC0-15179	Minimum Variance Geographic Sampling (July 1980)
SR-P0-00469 NAS 9-15466	NTIS: 80N33830. A Multispectral Data Simulation Technique (July 1980)
SR-L0-00475 JSC-16376 LEMSC0-14676	Canadian Crop Calendars in Support of the Early Warning Project (August 1980)

DOCUMENT NOS.	TITLE
SR-L0-00476 JSC-16377 LEMSC0-15115	Preliminary Evaluation of the Environmental Research Institute of Michigan Crop Calendar Shift Algorithm for Estimation of Spring Wheat Development Stage (September 1980)
SR-H0-00477 NAS 9-14689	The Numerical Trials of HISSE (August 1980)
SR-L0-00478 JSC-16378 LEMSC0-14807	NTIS: 881N29498. The Multicategory Case of the Sequential Bayesian Pixel Selection and Estimation Procedure (November 1980)
SR-30-00481 JSC 16381	A Semi-Automatic Technique for Multitemporal Classification of a Given Crop (July 1980)
SR-U0-00482 JSC-16383	Taxonomic Classification of World Soil Map Units Occurring in Selected Brazilian States with Representative U.S. Soil Series and Numerical Rating of Physical and Chemical Soil Properties Significant to Crop Production (September 1980)
SR-L0-00483 JSC-16384 LEMSC0-15358	NTIS: 82N22590. Probabilistic Cluster Labeling of Imagery Data (September 1980)
SR-L0-00484 JSC-16813 LEMSC0-15033	Normal Crop Calendars Volume I: Assembly and Application of Historical Crop Data to a Standard Product (August 1980)
SR-L0-00485 JSC-16814 LEMSCU-15034	Normal Crop Calendars Volume II: The Spring Wheat States of Minnesota, Montana, North Dakota, and South Dakota (August 1980)
SR-J0-00488 JSC-16816	Development Stage Estimation of Corn from Spectral Data - An Initial Model (August 1980)
SR-J0-00489 JSC-16817	Illustration of Year-to-Year Variation in Wheat Spectral Profile Crop Growth Curves (August 1980)
SR-P0-00491 NAS 9-15466	Contextual Classification of Multispectral Imagery Data Approximate Algorithm (August 1980)
SR-H0-00492 NAS 9-14689	On the Existence, Uniqueness, and Asymptotic Normality of a Consistent Solution of the Likelihood Equations for Nonidentically Distributed Observations-Applications to Missing Data Problems (September 1980)

DOCUMENT NOS.	TITLE
SR-P0-00494 NAS 9-15466	An Assessment of Landsat Data Acquisition History by Identification and Area Estimation of Corn and Soybeans (June 1980)
SR-U0-00497 JSC-16824	NTIS: 82N19633. Taxonomic Classification of World Map Units in Crop Producing Areas of Argentina and Brazil with Representative U.S. Soil Series and Major Land Resource Areas in Which They Occur (October 1980)
SR-J0-00498 JSC-16825	Spectral Reflectance of Soils: A Literature Review (August 1980)
SR-L0-00499 JSC-16826 LEMSC0-15305	NTIS: 81N31598. Classification of Wheat: Badhwar Profile Similarity Techniques (October 1980).
SR-J0-04001 JSC-16829	A Semi-Automatic Technique for Multitemporal Classification of a Given Crop of a Landsat Scene (October 1980)
SR-L0-04002 JSC-16830 LEMSC0-14640	NTIS: 82N19634. Preliminary Evaluation of Spectral, Normal, and Meteorological Crop Stage Estimation Approaches (October 1980)
SR-J0-04007 JSC-16832 LEMSCO-14880	NTIS: 81N33564. Maximum Likelihood Estimation for Mixture Models (October 1980)
SR-J0-04011 JSc-16836	Semi-Annual Project Management Report Program Review Presentation to Level 1, Interagency Coordination Committee (November 1980)
SR-L0-04012 JSC-15837 LEMSCO-15698	NTIS: 81N32576. Analysis of U.S. Spring Wheat and Spring Barley Periodic Ground Truth (January 1981)
SR-L0-04013 JSC-16838 LEMSCO-15679	Investigation of Boundary Pixel Handling Procedures (December 1980)
SR-IO-04015 NAS 9-14350	BIAS Modeling Experiment (November 1980)
SR-I0-04017 NAS 9-14350	QUASI-Field Purity Experiment (October 1980)
SR-L0-04019 JSC-16844 LEMSC0-14675	USSR Crop Calendar in Support of the Early Warning Project (December 1980)

DOCUMENT NOS.	TITLE
SR-P0-04022 NAS 9-15466	NTIS: 21N26527. FINAL REFORT: Field Research on the Spectral Properties of Crop and Soil (November 1980)
SR-PO-04023 NAS 9-15466	NTIS: 81H26528. FINAL REPORT: Research in the Application of Spectral Data to Crop Identification and Assessment (November 1980)
SR-P0-04024 NAS 9-15466	FINAL REPORT: Data Processing Research and Techniques Development (November 1980)
SR-P0-04025 NAS 9-15466	FINAL REPORT: Computer Processing Support (November 1980)
SR-L0-04028 JSC-16484 LEMSCO-15641	Spatial/Color Sequence Proportion Estimation Techniques (December 1980)
SR-J0-04029 JSC-16349	NTIS: 81N33549. A Comparative Study of the Thematic Mapper and Landsat Spectral Bands from Field Measurement Data (March 1981)
SR-L1-04031 JSC-16853 LEMSCO-15683	NTIS: 81N29502. Maximum Likelihood Clustering With Dependent Feature Trees (January 1981)
SR-L1-04032 JSC-16858 LEMSCO-16018	NTIS: 82N23581. Spring Small Grains Planting Date Distribution Model (March 1981)
SR-X1-04033 NAS 9-15981	Assembly Language Coding for CLASSY (January 1981)
SR-J1-04036 JSC-16861	NTIS: 81N33567. Weighted Ratio Estimation of Large Area Crop Production (February 1981)
SR-H1-04037 NAS 9-14689	Possible Modification of the HISSE Model for Pure Landsat Agricultural (February 1981)
SR-P1-04038 NAS 9-15466	NTIS: 82N21647. Soybean Canopy Reflectance as Influenced by Cultural Practices (March 1981)
SR-P1-04039 NAS 9-15466	NTIS: 82N23610. Canopy Reflectance As Influenced by Solar Illumination Angle (March 1981)
SR-X1-04041 NAS 9-15981	NTIS: 81N33563. Maximum Likelihood Labeling (February 1981)
SR-K1-04043 NAS 9-15421	Crop Classification Using Airborne Radar and Landsat Data (February 1981)

DOCUMENT NOS.	TITLE
SR-P1-04044 9-15466	NTIS: 82N2O591. Effects of Nitrogen Nutrition on the NAS Growth, Yield, and Reflectance Characteristics of Corn Canopy (May 1981)
SR-L1-04045 JSC-17113 LEMSC0-16035	NTIS: 82N21676. Classification of Corn: Badhwar Profile Similarity Technique (March 1981)
SR-X1-04046 NAS 9-15981	NTIS: 81N31600. Improved Version of the Split Routine for CLASSY (March 1981)
SR-X1-04053 NAS 9-15981	NTIS: 81N29503. New Output Improvements for CLASSY (March 1981)
SR-L1-04054 JSC-17128 LEMSC0-15676	NTIS: 81N28498. A Temporal/Spectral Analysis of Small Grain Crops and Confusion Crops (March 1981)
MU-L1-04055 JSC-17119 LEMSCO-16207	NTIS: 82N19608. Interim Catalog Ground Data Summary Data Acquisition Year 1979 (February 1981)
MU-L1-04056 JSC-17120 LEMSC0-16325	NTIS: 81N33546. Interim Catalog Ground Data Summary Data Acquisition Year 1978 (March 1981)
SR-L1-04064 JSC-17121 LEMSC0-16216	NTIS: 81N33573. A Crop Moisture Stress Index for Large Areas and Its Application in the Prediction of Spring Wheat Phenology (March 1981)
SR-E1-04065 NAS 9-15476	NTIS: 82N15480. Development and Evaluation of An Automatic Labeling Technique for Spring Small Grains (August 1981)
SR-L1-04067 JSC-17124 LEMSC0-16021	Estimation of Proportions in Mixed Pixels Through Their Region Characterization (March 1981)
SR-L1-04071 JSC-17127 LEMSC0-15971	NTIS: 81N29497. An Analysis of Haze Effect on Landsat Multispectral Scanner Data (March 1981)
SR-P1-04079 NAS 9-15466	Design and Evaluation of a Pick-Up Truck Mounted Boom for Evaluation of a Multiband Radiometer System (April 1981)
SRP1-04090 NAS 9-15466	NTIS: 83N12484. Performance Comparison for Barnes Model 12-1000, EXOTECH Model 100, and Ideas, Inc. Biometer Mark II (April 1981)

1 1 1 p.

DOCUMENT NOS.	TITLE
SR-L1-04094 JSC-17137	Recommended Data Sets, Corn Segments and Spring Wheat Segments, for Use in Program Development (April 1981)
SR-L1-04098 JSC-17139 LEMSCO-16342	Six-Channel Thematic Mapper Simulation (May 1981)
MU-L1-04100 JSC-17365 LEMSCO-16644	PRELIMINARY CATALOG: Ground Data Summary Data Acquisition for 1980 (May 1981)
SR-T1-04112 NAS 9-14689	NTIS: 81N29495. Development of Advanced Acreage Estimation Method (December 1980)
SR-L1-04122 JSC-17402 LEMSCO-14674	NTIS: 82N21682. U.S. Crop Calendar in Support of the Early Warning Project (July 1981)
MU-L1-04123 JSC-17403 LEMSCO-16938	NTIS: 82X74788. Interim Catalog Ground Data Summary Data Acquisition Year 1977 (July 1981)
SR-P1-04125 NAS 9-15466	On the Accuracy of Pixel Relaxation Labeling (July 1981) (Same as SR-P0-00455, DTD. March 1980)
SR-E1-04131 NAS 9-15476	NTIS: 82N16448. Documentation of Computer Procedures for Labeling Spring Grains and Discriminating Between Spring Wheat and Barley Using Landsat Data (August 1981)
SR-J1-04133 JSC-17412	Empirically Determined Calibration Differences Between MDP-LIVES and LACIE Processed Data (June 1981)
SR-E1-04138 NAS 9-15476	NTIS: 82N19635. Notes for Brazil Sampling Frame Evaluation Trip (August 1981)
SR-P1-04139 NAS 9-15466	NTIS: 82N23602. Linear Polarization of Light by Two Wheat Canopies Measured at Many View Angles (September 1981)
SR-P1-04140 NAS 9-15466	NTIS: 82N23566. Diurnal Changes in Reflectance Factor Due to Sun-Row Direction Interactions (September 1981)
SR-P1-04141 NAS 9-15466	NTIS: 82N23600. Application of Computer Axial Tomography to Measuring Crop Canopy Geometry (June 1981)
SR-P1-04148 NAS 9-15466	NTIS: 82N22856. Incorporating Spatia? Concept into Statistical Classification of Multidimensional Image Data (August 1981)

DOCUMENT NOS.	TITLE
SR-J1-04157 JSC-17428	Evaluation of Trends in Wheat Yield Models (July 1982)
SR-L1-04158 JSC-17429 LEMSCO-17156	NTIS: 82N24552. Regression Model Estimation of Early Season Crop Proportions: North Dakota, Some Preliminary Results (January 1982)
SR-P1-04159 NAS 9-15466	A Method for Classifying Multispectral Remote Sensing Data Using Context (1979)
SR-P1-04160 NAS 9-14970	Sampling for Area Estimation: A Comparison of Full-Frame Sampling with the Sample Segment Approach (July 1979)
MU-E1-04161 NAS 9-15476	Analysis of Scanner Data for Crop Inventories - Period Covered November 15, 1979-February 15, 1980 (May 1980)
MU-E1-04162 NAS 9-15476	Analysis of Scanner Data for Crop Inventories - Period Covered February 16, 1980-May 15, 1980 (May 1980)
SR-P1-04163 NAS 9-15466	Analytical Design of Multispectral Sensors (April 1980)
SR-P1-04164 NAS 9-15466	Overcoming Accuracy Deterioration in Pixel Relaxation Labeling (December 1980)
SR-P1-04165 NAS 9-15466	Evaluation of Several Schemes for Classification of Remotely Sensed Data (December 1980)
SR-P1-04166 NAS 9-15466	Contextual Classification of Multispectral Remote Sensing Data Using a Multiprocessor System (April 1980)
SR-P1-04167 NAS 9-15466	Parallel Processing Implementations of a Contextual Classifier for Mu ¹ tispectral Remote Sensing Data (June 1980)
SR-P1-04168 NAS 9-15466	The Development of a Spectral-Spatial Classifier for Earth Observations Data (August 1979)
SR-P1-04169 NAS 9-15466	A Parametric Model for Multispectral Scanners (April 1980)
SR-P1-04170 NAS 9-15466	NTIS: 82N23606. A Model of Plant Canopy Polarization Response (June 1980)
SR-E1-04174 NAS 9-15476	NTIS: 82N21658. 1981 Argentina Ground Data Collection (October 1981)

DOCUMENT NOS.	TITLE
SR-P1-04187 NAS 9-15466	NTIS: 82N21670. Spectral Agronomic Relationships of Corn, Soybean, and Wheat Canopies (October 1981)
SR-E1-04189 NAS 9-15476	NTIS; 82N25595. Ground Truth Crop Proportion Summary for U.S. Segment, 1976-1979 (October 1981)
SR-P1-04191 NAS 9-15466	NTIS: 82N21672. Variability of Reflectance Measurement with Sensor Altitude in Canopy Type (November 1981)
SR-P1-04194 MAS 9-15466	NTIS: 82N23586. Multistage Classification of Multispectral Earth Observational Data: The Design Approach (December 1981)
SR-J1-04195 JSC-17792	NTIS: 82N23592. Semi-Annual Project Management Report - Program Review Presentation to Level 1 Interagency Coordination Committee (November 1981)
SR-P1-04200 NAS 9-15466	NTIS: 82N22623. Spectral Properties of Agricultural Crop and Soils Measured from Space, Aerial, Field, and Laboratory Sensors (November 1981)
SR-P1-U4201 NAS 9-15466	NTIS: 82N21669. A Multiband Radiometer and Data Acquisition System for Remote Sensing Field Research (November 1981)
SR-P1-04202 NAS 9-15466	NTIS: 82N21671. Simulated Response of a Multispectral Scanner Over Wheat As a Function of Wavelength and View/Illumination Direction (November 1981)
SR-E1-04205 9-15476	NTIS: 82N2453/. The Extension of a Uniform Canopy NAS Reflectance Model to Include Row Effect (December 1981)
SR-E1-04206 NAS 9-15476	NTIS: 82N32813. Spatial and Spectral Simulation of Landsat Images of Agricultural Areas (March 1982)
SR-T1-04207	The Akaite Information Crita (December 1981)
SR-K1-04213 NAS 9-15421	NTIS: 82N24557. Mars X-Band Scatterometer (November 1981)
SR-K1-04214 NAS 9-15421	NTIS: 82N24560. Coherent Optical Determination of the Leaf Angle Distribution of Corn
SR-K2-04220 NAS 9-15421	NTIS: 82N24559. Crop Classification Using Multidate/ Multifrequency Radar Data (December 1981)
SR-E2-04222 NAS 9-14565	NTJS: 82N24561. Agronomic Characterization of the Argentina Indicator Region (January 1982)

DOCUMENT NOS.	TITLE
SR-E2-04224 NAS 9-15476	NTIS: 82N24536. Cultural and Environmental Effects on the Spectral Development Patterns of Corn and SoybeansField Data Analysis (January 1982)
MU-E2-04226 NAS 9-15476	Research and Development of Landsat Based Crop Inventory Techniques (January 1982)
SR-K2-04227 NAS 9-15421	NTIS: 82N24562. Within-562. Within-Field Variability of Plant and Soil Parameters (December 1981)
SR-P2-04236 NAS 9-15466	NTIS: 82N26742. Spectral Estimates of Solar Radiation Intercepted by Corn Canopy (March 1982)
SR-X2-04260 NAS 9-16446	NTIS: 82N32794. Algorithms for Scene Modeling (March 1981)
SR-P2-04266 NAS 9-15466	NTIS: 83N12506. FINAL REPORT: Remote Sensing of Agricultural Crops and Soils (May 1982)
SR-J2-04271 JSC-17831	Semi-Annual Program Review Presentation to Level 1, Interagency Coordination Committee (April 20, 1982)
SR-P2-04277 NAS 9-16528 NAS 9-15466	NTIS: 82N328O3. LARSPEC Spectradiometer - Multiband Radiometer Data Formats (May 1982)
SR-P2-04278 NAS 9-15466	NTIS: A82-27645. Soybean Canopy Reflectance as a Function of View in Illumination Geometry (April 1982)
SR-P2-04292 NAS 9-15466	Key Issues in the Analysis of Remote Sensing Data (June 1981)
SR-J2-U4300 JSC-18242	NTIS: 83N14554. Monitoring Global Vegetation (preprint for the 7th International Symposium W. Lafayette, Ind.) June 1981
SR-P2-04301 NAS 9-15466	Characteristic Variations in Reflectance of Surface Soils (May 1982)
SR-K2-04313	NTIS: 83N12485. A Three-Part Geometric Model to Predict the Radar Backscatter from Wheat, Corn, and Sorghum (April 1982)
SR-T2-04317 NAS 9-14689	NTIS: 83N12494. FINAL REPORT: Development of Advanced Acreage Estimation Methods (June 1982)
SR-P2-04313 NAS 9-15466	NTIS: 82N32805. Performance Evaluation and Calibration of Modular Multiband Radiometer for Remote Sensing and Field Research (June 1932)

DOCUMENT NOS.	TITLE
SR-P2-04326 NAS 9-15466	NTIS: 83N12504. Extension of Laboratory Measured Soil Spectra to Field Conditions (June 1982)
SR-K2-04336 NAS 9-15421	NTIS: 83N12499. Data Documentation for the 1981 Summer Vegetation Experiment (May 1982)
SR-J2-04337 JSC-18264	NTIS: 83N13529. Development of Thematic Mapper Vegetative Indices for Assessing Biomass in Corn, Soybeans, and Wheat
SR-M2-04341 NAS 9-16457	(August 1982) Leaf Area Estimates from Spectral Measurements Over Various Planting Date of Wheat (September 1982)
SR-M2-04342 NAS 9-16457	Intercepted Photosyrthetically Active Radiation in Wheat NAS Canopies Estimated by Spectral Reflectance (September 1982)
SR-J2-04360 JSC-18574	Program to Compute the Positions of the Aircraft and of the Aircraft Sensor Footprints (September 1932)
SR-B?-04375 NAS 9-14565	Labeling Research in Support of Th ough-the-Season area Estimation (November 1982)
SR-62-04376 NAS 9-16438	A Comparison of Minimum Distance and Maximum Likelihood Techniques for Proportion Estimation (November 1982)
SR-P2-04384 NAS 9-15466	Relation of Agronomic and Multispectral Reflectance Characteristics of Spring Wheat Canopy (December 1982)
SR-L3-04388 JSC-18590 LEMSC0-19020	Linear Discriminate Analysis with Misallocation in Training Samples (December 1982)
SR-L3-04389 JSC-18591 LEMSCO-19021	On the Error in Crop Acreage Estimation Using Satellite (Landsat) Data (January 1983)
SR-73-04391	Proportion Estimation Sensitivity Analyses (October 1982)
SR-L3-04392 JSC-18593 LEMSCO-19023	Composition and Assembly of a Spectral and Agronomic Data Base for 1980 Spring Small Grain Segments (January 1983)
SR-M3-04401 NAS 9-16457	Analysis of Seasonal Multispectral Reflectances of Small Grains (March 1983)
SR-63-04408	FINAL REPORT: Establishment of a Center of Excellence for Applied Mathematical and Statistical Research (January 1983)
SR-63-04409 NAS 9-16438	Proportion Estimation and Mixtures of Asystematric Distributions (May 1983)

DOCUMENT NOS.	1 ITLE
SR-03-04411 NAS 9-16457	Seasonal Insitu Spectral Reflectance Measurements of Small Grain in South Dakota (April 1985;
SR-L3-04426 JSC-18884 'EMSCO-19539	Argentina Spectral-Agronomic Multitemporal Data Set (June 1983)
SR-63-04427 NAS 9-16438	Minimum Distance Estimation of Mixture Models Parameters Asymptotic Results and Simulation Comparisons with Maximum Likelihood (June 1983)
SR-L3-04428 JSC-18885 LEMSCO-19422	Separability of Agricultural Crops with Af borne Scatterometry (June 1983)
SR-L3-04430 JSC-18886 LEMSCO-19428	Data Management Procedures for Tiepolit Registration, Pre- and Post-Processing, and 'ICD116' (June 1983)

MINUTES - 00500

DOCUMENT NOS.

TITLE

SR-J0-00503 JSC-10839 Minutes of the Semi-Annual Formal Project Manager's Review (October 7, 1980)

DOCUMENT NOS.	TITLE
SR-J9-C0602 JSC-16340	Supporting Research Project Implementation Plan (December 1979)
Sk-J0-C0615 JSC-16834	Supporting Research Project Implementation Plan For FY 1981 and 1982 (October 1980)
SR-J1-C0636 JSC-17416	Supporting Research Project Implementation Plan (FY82 and 83) (April 15, 1982)
SR-E1-00644 NAS 9-15476 NAS 9-14565	NTIS: 82X74798. Argentina Ground Data Collection Plan for 1981-1982 Crop Year (November 1981)
SR-J2-C0652 JSC-18247	Supporting Research Project Research Plan Document (June 1982)
SR-J2-C0653 JSC-18266	Supporting Research Project Implementation Plan for Fiscal Year 1983 (September 15, 1982)

DOCUMENT NOS.	TITLE
SR-L1-00717 JSC-17400 LEMSCO-16376	NTIS: 82N21638. As-Built Documentation of Programs to Implement the Robertson and Doraiswamy/Thompson Models (June 1981)
SR-L1-00720 JSC-17410 LEMSCO-16669	User Guide to Spring Small Grain Planting Date Distribution Model (August 1981)
SR-L1-00726 JSC-17786 LEMSC0-17105	Semi-Automated Procedure for Producing High-Purity Labels for Corn and Soybean Crops (November 1981)
SR-L1-00727 JSC-17655 LEMSCO-17272	NTIS: 82X74789. User's Guide for the Profile Parameter Classification System (August 1981)
SR-L2-00750 JSC-18257 LEMSCO-17765	NTIS: 83N12493. Development of a Corn and Soybean Labeling Procedure for Use with Profile Parameter Classification (June 1982)
SR-L2-00757 JSC-18585 LEMSC0-18927	Accuracy Assessment User's Guide for NAS-3000 (December 1982)
SR-L3-00761 JSC-18598 LEMSCO-19253	User Guide for the Extraction of Landsat Spectral and Agronomic Data (January 1983)

PROJECT: SR

- Amis, M. L., R. K. Lennington, M. V. Martin, W. G. McGuire, and S. S. Shen. Evaluation of Large Area Crop Estimation Techniques. International Symposium on Remote Sensing of Environment, 15th, Ann Arbor, MI, May 11-15, 1981, Vol. 2.
- Badhwar, G. D., J. G. Carnes, and W. Austin: Use of Landsat-Larived Temporal Proffles for Corn-Soybean Feature Extraction and Classification. Remote ?uP°Sensing Environment, Vol. 12, March 1982, p. 57-79.
- Crist, E. P., and W. A. Malila: A Temporal Spectral Analysis Technique for Vegetation Applications of Landsat. 14th International Symposium on Remote Sensing of Environment, San Jose, Costa Rica, April 1980.
- Crist, E., and W. Malila: A Technique for Automatic Labeling of Landsat Agricultural Scene Elements by Analysis of Temporal-Spectral Patterns. 15th International Symposium on Remote Sensing of Environment, May 1981.
- Doraiswamy, P., and D. Thompson. Nov.-Dec. 1980. An Agromet Crop Phenology Model for Spring Wheat. American Society of Agronomy Crop Science Society of America, Soil Science Society of America.
- Feiveson, A.: Aids for the Identification of Statistical Concepts. The Joint Statistical Meeting of the American Statistical Association and Biometric Society, Houston, Texas, August 1980.
- Hay, C. M., L. H. Beck, and E. J. Sheffner. Remote Sensing of Arid and Semi-Arid Lands. International Symposium on Remote Sensing of Environment. Cairo, Egypt, January 1982.
- Holmes, Q. A., and R. Horvath: Procedure M: An Advanced Procedure for Stratified Area Estimation Using Landsat. 14th International Symposium on Remote Sensing of Environment, San Jose, Costa Rica, April 1980.
- Kauth, R. J., R. C. Cicone, and W. A. Malila: Procedure M: A memework for Stratified Area Estimation. 1980 Machine Processing of Rem / Sensed Data Sympos m, Purdue/LARS University, June 1980.
- Kauth, R. J., W. A. Malila, R. Horvath, and R. C. Cicone: Design Consideration for Resource Inventory Systems. 14th International Symposium on Remote Sensing of Environment. April 1980.
- Malila, W. A., P. F. Lambeck, and E. P. Crist: Landsat Features for Agricultural Applications. 14th International Symposium on Remote Sensing of Environment, San Jose, Costa Rica, April 1980.
- Pitts, D., and G. Badhwar: Field Size, Length, and Width Distributions Based on LACIE Ground Truth Nata. Remote Sensing of Environment, 1980, pp. 201-213.
- Quarterly Technical Interchange Meeting, March 23-26, 1981.
- Quarterly Technical Interchange Meeting, July 7-10, 1981.

Quarterly Technical Interchange Meeting, October 6-9, 1981.

Quarterly Technical Interchange Meeting, January 19-20, 1982.

Quarterly Technical Interchange Meeting, April 26-30, 1982.

- Richards, J. A., D. A. Landgrebe, and P. H. Swain: Pixel Labeling by Supervised Probabilistic Relaxation. IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. Pami-3, No. 2, March 1981. (SR-PO-00454)
- Seminar by Bob Sielken at Mathematics Department of University of South Dakota, Spring 1980. Reports 18, 19, and 20.
- Thompson, D., and O. Wehmanen: Using Landsat Digital Data to Detect Moisture Stress in Corn-Soybean Growing Regions. Photogrammetric Engineering and Remote Sensing, Vol. 46, No. 8, pp. 1087-1093, August 1980.

S. 4 . 2

SOIL MOISTURE (SM)

R. H. Gilbert, Project Manager

USDA/SCS Soil Survey Investigations P. O. Box 2890 Washington, DC 20013

Phone: FTS 447-4987

S 1.5. 1

INSTRUCTIONS - 00100

PROJECT: SOIL MOISTUDE (SM)

1980)

MU-J0-0100 NTIS: 82N19629. Yield Model Development/Soil Moisture
JSC-16841 Interface Control Document (November 1980)

MU-J0-0101 NTIS: 82N19628. Soil Meisture/Early Warning and Crop
JSC-16842 Condition Assessment Interface Control Document (November

PPROJECT: SM

DOCUMENT NOS.	TITLE
SM-L0-0G415 JSC-13775 LEMSC0-14082	Neutron-Meter Calibration for the 1978 Soil Moisture Experiment (January 1980)
SM-L0-00441 JSC-16357 LEMSC0-14600	NTIS: 81N29494. Evaluation of Gravimetric Ground Truth Soil Moisture Data Collected for the 1978 Colby (Kansas) ASME Aircraft Mission (April 1980)
SM-M0-00462 NAS 9-14899	NTIS: 80H30869. Use of Soil Moisture Information in Yield Model (June 1980)
SM-L0-10463 JSC-16366 LEMSC0-14307	NTIS: 82N19632. Agricultural Soil Moisture Experiment, Colby, Kansas, 1978: Measured and Predicted Hydrologic Properties of the Soil (June 1980)
SM-J0-00470 JSC-16372	NTIS: 82N32798. A Parametric Study of Tillage Effects on Radar Backscatter (July 1980)
SM-G0-00471	Reports on the Remote Measurement of Soil Moisture by Microwave Radiometers at Barc Test Site (August 1980)
SM-L0-00490 JSC-16818 LEMSC0-15330	Comparison of the Characteristics of Soil Water Profile Models (January 1981)
SM-Y0-00495 NAS 7-100	Joint Microwave and Infrared Studies for Soil Moisture Determination (September 1980)
SM-K0-04004 NAG 5-30	Comparison of Ground and Airborne Remote Sensing Radar Measurements (October 1980)
SM-KU-04005 NAG5-30	Aircraft Radar Response to Soil Moisture (October 1980)
SM-K0-04006 NAG5-30	1978 Agriculture Soil Moisture (ASME) Data Documentation (October 1980)
SM-A9-04008 NAS 9-14251	Data Decumentation for the Bare Soil Experiment at the University of Arkansas (October 1980)
SM-R0-04016	Soil Moisture Project Evaluation Workshop (November 1980)
SM-G0-04018 TM 82002	NTIS: 81N24495. Calculations of the Spectral Nature of the Microwave Emissions From Soil (November 1500)
SM-L0-04021 000-16846 LEMSCO-15672	NTIS: 81N29507. Descriptive and Sensitivity Analysis of WATBAL 1, A Dynamic Soil Water Model (March 1981)

DOCUMENT NOS.	TITLE
SM-K1-04035 NAS 9-14052	FINAL REPORT: Agriculture Soil Moisture Experiment (January 1981)
SM-L1-04047 JSC-17115 LEMSC0-15324	Agricultural Soil Moisture Experiment: Evaluation of 1978 Colby Data Collected for Comparative Testing of Soil Moisture Models (May 1981)
SM-K1-04048 NAG 5-30	A Backscatter Model for a Randomly Perturbed Periodic Surface (March 1981)
SM-K1-04049 NAG5-30	An Approximate Model for Backscattering and Emission Land and Sea (March 1981)
SM-G1-04050 TM 82100	NTIS: 81N24494. A Parameterization of Effective Soil Temperature for Microwave Emission (March 1981)
SM-T1-04057 NAG 5-31	Airborne Microwave Remote Sensing of Soil Moisture (November 1980)
SM-T1-04058 NAG 5-31	Application of Strong Fluctuation Random Medium Theory to Scattering of Electromagnetic Waves from a Half Space of Dielectric Mixture (March 1981)
SM-T1-G4060 NAG 5-31	eld Calibration of the Dual-Tube Gamma Soil Moisture Guage (March 1981)
SM-T1-04063 NAG 5-31	Spatial Variability of Hydraulic Properties of Soil as Described by Scaling and Its Relation to Remotely Sensing Soil Parameters (March 1981)
SM-R1-04084	Survey of Applications of Passive Microwave Remote Sensing for Soil Moisture in the USSR (May 1981)
SM-G1-04086	A Computer Program for the Simulation of Heat and Moisture Flow in Soils (April 1981)
SM-L1-04091 JSC-17296	NTIS: 82N21636. Ground Registration of Data fr m an Airborne Scatterometer (June 1981)
SM-G1-04113	NTIS: 82N22587. Radiometric Measurements Over Bare and Vegetated Fields at 1.4GH _z and 5GH _z Frequencies (June 1981)
SM-L1-04118 JSC-17152 LEMSCO-168CO	NTIS: 82N22593. Ground Registration of Data From an Airborne Multifrequency Microwave Radiometer (MFMR) (October 1981)
SM-T1-04128 NAG-5-31	The Effect of Soil Water Upon Soil Albedo (June 1981)

PROJECT: SM

DOCUMENT NOS.	TITLE
SM-G1-04129	NTIS: 82N24535. Soil Moisture Variation Patterns Observed in Hand County, South Dakota (August 1981)
SM-G1-04135	Prisms Workshop Meeting Report - Vol. 1
SM-G1-04136	Prisms Workshop Meeting Report - Vol. II - Technical Presentations
SM-T1-04152 NAG 5-31	Ground Truth Report: 1980 Texas A&M University Soil Moisture Experiment (September 1981)
SM-G1-04173	A Model for Microwave Emission From Vegetation Covered Fields (October 1981)
SM-G1-04178	NTIS: 82N23611. A Multifrequency Radiometric Measurement of Soil Moisture Content Over Bare and Vegetated Fields (October 1981)
SM-K1-04179 NAG 5-30	The Effects of Vegetation Cover in the Microwave Radiometric Sensittivity to Soil Moisture (March 1982)
SM-K1-04180 NAG5-30	Microwave Emission From a Periodic Soil Surface (November 1981)
SM-K1-04182 NAG 5-30	A Model for the Radar Backscattering Coefficient of Bare Soil (January 1982)
SM-L1-04209 JSC-17798 LEMSCO-17305	Annual Report: Accomplishment of NASA Johnson Space Center Portion of the Soil Moisture Project in Fiscal Year 1981 (January 1982)
SM-K1-04210 NAG5-30	Effects of Vegetation Cover on Radar Sensitivity to Soil Moisture (December 1981)
SM-G1-04218	NTIS: 82N24550. A Multifrequency Measurement of Thermal Microwave Emission From Soil: The Effect of Soil Texture and Surface Roughness (December 1981)
SM-G2-04221	Estimation of Soil Moisture Storage in the Root Zone from Surface Measurements (January 1982)
SM-L2-04234 JSC-17816 LEMSC0-17502	NTIS: 83N15793. Fortran Implementation of Friedman's Test for Several Related Samples (February 1982)
SM-K2-04240 NAG 5-30	Active Reflector for Radar Calibration (February 1982)

DOCUMENT NOS.	TITLE
SM-L2-04247 JSC-17820 LEMSCO-17187	NTIS: 82N32792. A Comparison of Soil Moisture Characteristics Predicted by the Arya-Paris Model with Laboratory-Measured Data (March 1982)
SM-K2-04268 NAG 5-30	Method for Retrieving the True Backscatter 9 Coefficient from Measurements with a Real Antenna (April 1982)
SM-K2-04269 NAG 5-30	The Effects of Vegetation Cover on the Radar and Radiometric Sensitivity to Soil Moisture (April 1982)
SM-U2-04274 JSC-18226	Semi-Annual Program Review Presentation to Level 1, Interagency Coordination Committee (April 20, 1982)
SM-K2-04284 NAS 9-16419	Computer Simulation of a Space SAR Using a Range-Sequential Processor for Soil Moisture Mapping (April 1982)
SM-G2-04285	Passive Microwave Sensing of Scil Moisture Content (May 1982)
SM-G2-04291	Incoherent Scattering of Microwave from Rough Soil Surfaces (May 1982)
SM-K2-04299 NAS 9-16419	Radar Cross Section Measurements Using a Radiometer Receiver (May 1982)
SM-R2-04308	Aircraft Active Microwave Measurements for Estimating Soil Moisture (June 1980)
SM-R2-04309	Aircraft Remote Sensing of Soil Moisture and Hydrologic Parameters, Taylor Creek, Florida, and Little River, Georgia, 1979 Data (September 1981)
SM-R2-04314	Volume-Accuracy Relationship in Soil Moisture Sampling (March 1982)
SM-A2-04322 NAS 9-14251	NTIS: 83N12491. Measurement of Soil Moisture Using Remote Sensing Multisensor Radiation Techniques (May 1982)
SM-M2-04330 NAS 9-16457	Application of Numerical Integration of Laplace Transform in Estimating Thermal Diffusivity Near the Soil Surface: Uniform Initial Condition (July 1982)
SM-R2-04331	Survey of Applications of Passive Microwave Remote Sensing for Soil Moisture in the USSR (May 1982) (Previously submitted, SM-R1-04084, dated May 1981)
SM-K2-04339 NAS 9-16419	Radar Backscatter Measurements of Periodic Soil Surfaces: Data Documentation (August 1982)

REPORTS - 00400

PROJECT: SM

DOCUMENT NOS.	TITLE
SM-R2-04352	Aircraft Remote Sensing of Sc´l Moisture and Hydrologic Parameters, Chickasha, Okla., 1980 Data Report (July 1982)
SM-K2-04356 NAS 9-164i9	NTIS: 83N12503. Assessment of Radar Resolution Requirements for Soil Moisture Estimation from Simulated Satellite Imagery (August 1982)
SM-T2-04363 NAG 5-31	NTIS: 83N14557. INTERIM REPORT: Investigation of Remote Sensing Techniques of Measuring Soil Moisture (January 1981)
SM-G3-04400	Calculations of Radar Backscattering Coefficient of Vegetation - Covered Soils (March 1983)
SM-R3-04403	Method of Measuring Soil MoistureA Bibliography (April 1983)
SM-T3-04425 NAG 5-31	The Prediction of Root Zone Soil Moisture with a Water Balance-Microwave Emission Model (May 1983)

DOCUMENT NOS.	TITLE
SM-J0-000513 JSC-16822 LEMSC0-15181	NTIS: 81N33575. Experiment Plan: Row and Roughness Effect on Dependence of Active Microwave Measurements of Soil Moisture (October 1980)
SM-J1-C0620 JSC-17108	Soil Moisture Project Implementation Plan (1981)
SM-J1-C0627 JSC-17150	Soil Moisture Project Implementation Plan (1980)
SM-L1-00647 JSC-17796 LEMSCO-17289	Plan for Analysis of the Colby Agricultural Soil Moisture Experiment (ASME) Remote Sensing Data for Near-Surface Soil Moisture Prediction (November 1 31)
SM-U1-C0650 JSC-17802	Soil Moisture Project Implementation Plan for Fiscal Years 1982 and 1983 (November 1981)
SM-U2-C0658 JSC-18570	Scil Moisture Project Implementation Plan for Fiscal Year 1983 (September 15, 1983)

TECHNICAL TRANSLATIONS - 00800

PROJECT: SM

DOCUMENT NOS.

TITLE

SM-J1-00800 JSC-16859 Determination of Changes in the Hydrolic and Thermal Profits of Soil by Simulation and Remote Sensing (February 1981)

- Bouma, J., R. E. Paetzold, and R. B. Grossman. Application of Hydraulic Conductivity Measurements in Soil Moisture Survey. Soil Survey Investigations Report. USDA-GCS.
- Bouma, J., R. Paetzeld, and R. Grossman. Measuring Hydraulic Conductivity for Use in Sci. Survey. USDA/SCS Goil Survey Investigations Report No. 38, pp. 14. 1982.
- Brisco, B. and C. Allen. Lata Documentation for the 1981 Summer Vegetatin Experiment. RSL TR 360-19, 9NAS9-15421) June, 1982, U-Kansas.
- Brisco, B. F. T. Ulaby, and M. C. Dobson. Within-Field Variability of Plant and Soil Parameters. RSL TR 360-16, NAS9-15421. Dec. 1981, U-Kansas.
- Brunfeldt, D. R. and F. T. Ulaby. An Active Radar Calibration Target. IEEE International Geoscience and Remote Schsing Symposium (IGARSS-82), Munich, Germany, Cat. No. 82-CH14723-6, June 1-4, 1982.
- Burke, H. K. and T. J. Schmugge. Effects of Varying Soil Moisture Contents on Microwave missions at 21, 2.8, and 1.67 cm from Agriculture Fields. ERT-A245 Oct. 1960. Also, IEEE International Geoscience and Remote Sensing Symposium (IGARSS-8 Maskington, D.C., Cat. No. 81-CH1656-8, Vol 1, pp. 388-395. Also IEEE sactions on Geoscience and Remote Sensing, Vol. GE-20, No. 3, pp. 268-274, July 1932.
- Burke, H. K., T. J. Schmugge, and K. S. Shanumsan. Effects of Vegetation on Passive Mycrowave Estimates of Soil Moisture. USDA/ARS. IEEE International Geoscience and Remote Sensing Symposium (IGARSS-81), Washington, D>C>, Cat. No. 81-CH1656-8, Vol. 1, pp. 375-387, June 8-10, 1981.
- Choudhury, Schmugge, and Mo. Parameterization of Effective Soil Temperature for Microvave Emission; publication in JGR (June 1980); also SM-G1-04050.
- Choudhury, B. J. and B. J. Blanchard. A Simulation Study of the Recession Coefficient for Antecedent Precipitation Index. TM-83860. Nov. 1981, GSFC.
- Chuang, S. and J. A. Kong. Scattering of Waves from Periodic Surfaces. (NAG5-141) Proceedings of the IEEE, Vol. 69, No. 9, pp. 1132-1139, Sept. 1981.
- Chuang, S. L. Wave Scattering from a Periodic Dielectric Surface for a General Angle of Incidence. Nov. 1981 Radio Science, Vol. 17, No. 3, pp. 545-557, May-June 1982.
- Dobson, M. C. and F. T. Ulaby. Microwave Backscatter Dependence on Surface Roughness, Soil Moisture and Soil Texture: Part III--Soil Tension. IEEE Transactions on Geoscience and Remote Sensing, Vol. GE-19, No. 1, Jan 1931.
- Dobson, M. C., F. T. Ulaby, and S. Moezzi. Assessment of Radar Resolution Requirements for Sept. Moisture Estimation from Simulated Satellite Imagery. RSL IR 551-2, (No. 9-16419) Sept. 1982, U-Kansas; also SM-K2-04356.

- Gabel, P. F. Ulaby, F. T., and D. R. Brunfeldt. MARS X-Band Scattcrometer. RSL TR 360-14, (NAS 9-15421), Nov. 1982, U-Kansas.
- Jackson, T. J. Profile Soil Moisture From Surface Measurements. Journal of the Irrigation and Drainage Division, ASCE, Vol. 106, No. IR2, 1980, pp. 81-92.
- Jackson, T. J., T. J. Schmugge, G. A. Coleman, C. R. Richardson, A. Chang, J. Wang, and E. T. Engman. Aircraft Remote Sensing of Soil Moisture and Hydrologic Parameters, Chickasha, OK and Riesel, TX. 1978 Data Report, ARR-NE-8, USDA-SEA-AR, Beltsville, MD 1980.
- Jackson, T. J., A. Chang, and T. J. Schmugge. Active Microwave Measurements for Estimating Soil Moisture in Oklahoma. Proceedings of the Fall Technical Meeting of the ASP. Niagara Falls. NY. 1980.
- Jackson, T. J., A. Chang, and T. J. Schmugge. Aircraft Active Microwave Measurements for Estimating Soil Moisture. Photogrammetric Engineering and Remote Sensing. 1980. (accepted for publication).
- Jackson, T. J., T. J. Schmugge, A. D. Nicks, G. A. Coleman, E. T. Ergman, and J. R. Wang. Analysis of Microwave Remote Sensing of Soil Moisture for Hydrologic Simulation. International Symposium on Recent Developments for Hydrological Forecasting, Oxford, England, April 1980.
- Jackson, T. F., T. J. Schmugge, and J. R. Wang. Passive Microwave Sensing of Soil Moisture Under Vegetation Canopies. Water Resources Research, Vol. 18, No. 4, pp. 1137-1142, August 1982.
- Jackson, T. J., P. E. O'Neill, and G. C. Coleman. Aircraft Remote Sensing of Soil Moisture and Hydrologic Parameters: Chickasha, OK, 1980 Data Report. ARR-NE-14 July 1982, USDA/ARS; also, SM-R2-04352.
- Plackson, T. J., T. J. Schmugge, A. D. Nicks, G. A. Coleman, E. T. Engman, and J. R. Wang. Soil Moisture Updating and Microwave Remote Sensing for Hydrological Simulation. International Symposium on Recent revelopments for Hydrological Forecasting, Oxford, England; Hydrological Sciences Bulletin, Vol. 26, No. 3, pp. 305-319, Sept. 1982.
- Lascano, T. and C. H. M. VanBavel. Spatial Variability of Soil Hydraulins and Remotely Sensed Soil Parameters. Texas A&M Soil Science Society of America Journal, Vol. 46, No. 2, pp. 223-228, March 1982.
- McKim, H. L., T. J. Schmugge, and T. J. Jackson. Survey of Methods for Soil Moisture Determination. 14th International Symposium on Remote Sensing of Environment, San Jose, Costa Rica, April 1980.
- No, T and T. J. Schmugge. Numerical Simulation of Soil Brightness Temperature at Lambda = 21 cm. June 1981 GSFC, IEEE International Geoscience and Remote Sensing Symposium (IGARSS-81), Washington, D.C., Cat. No. 81-CH1656-8. Vol. 1, pp. 414-425, June 8-10, 1981.

PROJECT: SM

- Newton, R. S. Microwave Soil Moisture Measurements. RSC TR 3085 May 1980, Texas A&M.
- Newton, R. W., Black, Q. R., Makanvand, S., Blanchard, A. V., and Jean, B. R. Soil Moisture Information and Thermal Microwave Emission. Texas A&M IEEE International Geoscience and Remote Sensing Symposium (IGARSS-81), Washington, D>C>, Cat. No. 81-CH1656-8, Vol. 1, pp. 396-413. Also IEEE Transactions on Geoscience and Remote Sensing, Vol. GE-20, No. 3, pp. 275-281, July 1982.
- Njoku, E. G. and O'Neil, P. E. Multirrequency Microwave Radiometer Measurements of Soil Moisture. IEEE Transactions on Geoscience and Remote Sensing, Vol. GE-20, Lct. 1982.
- Price, J. C. Satellite Estimation of Regional Scale Surface Moisture Characteristics. Meeting of the American Geophysical Union, San Francisco, CA, December 11, 1980.
- Price, J. C. 1980. The Potential of Remotely Sensed Thermal Infrared Data to Infer Surface Soil Moisture and Evaporation. Water Resources Research, 16, pp. 787-795.
- Price, J. C. Potential of Remotely Sensed Thermal Infrared Data to Infer Surface Soil Moisture and Evaporation, Water Resources Research, Vol. 16, pp. 787-795, 1980.
- Price, J. C. Use of Remotely Sensed Infrared Data for Inferring Environmental Condition from Surface Characteristics and Regional Scale Meteorology. IEEE International Geoscience and Remote Sensing Symposium 9IGARSS-81), Washington, D.C., Cat. No. 81-CH1656-8, pp. 1195-2000, June 8-10, 1981.
- Price, J. C. Estimation of Regional Scale Evapotranspiration Through Analysis of Satellite Thermal Infrared Data. IEEE Transactions on Geoscience and Remote Sensing, Vol. GE-20, No. 3, pp. 286-292, July 1982.
- Schmugge, T. J., T. J. Jackson, and H. L. McKim. Methods for Soil Moisture Determination. Water Resources Research, Vol. 16, No. 6, 1980, pp. 961-979.
- Shin, R. T. and Kong, J. A. Radative Transfer Theory for Active Remote Sensing of a Homogeneous Layer Containing Spherical Scatterers. Journal of Applied Physics, Vol. 52, No. 6, pp. 4221-4227, June 1981.
- Tsang, L., Kubacsi, M. C., and Kong, J. A. Radiative Transfer Theory for Active Remote Sensing of a Layer of Small Ellipsoidal Scatterers. Radio Science, Vol. 16, No. 3, pp. 321-329, May-June 1981.
- Ulaby, F. T., Li, R. Y., and Shammugan, K. S. Crop Classification by Radar-IEEE International Geoscience and Remote Sensing Symposium (IGARSS-81), Washington, D.C., : No. 81-CH1656-8, pp. 638-647, June 8-10, 1981.

PROJECT: SM

- Ulaby, F. T., Li, R. Y. and Shanumgan, K. S. Crop Classification Using Airborne Radar and Landsat Data. IEEE Transactions on Geoscience and Remote Sensing, Vol. GE-20, No. 1, pp. 42-51, Jan. 1982.
- Ulaby, F. T., Dobson, M. C., Stiles, J. A., Moore, R. K., and Holtzman, J. E. Simulation Study of Soil Moisture Estimation by a Space SAR A. Photogrammetric Engineering, Vol. 48, No. 4, pp. 645-660, April 1982.
- Ulaby, F. T. Review of Approaches to the Investigation of the Scattering Properties of Material Media. IEEE International Geoscience and Remote Sensing Symposium (IGARSS-82), Munich, Germany, Cat. No. 82-CH14723-6, June 1-4, 1982.
- Ulaby, F. T., Dobson, M. C., and Bradley, G. A. Radar Reflectivity of Pare and Vegetation-Cover Soil. Proceedings of the 23rd Annual Conference of the Committee on Space Research (COSPAR), Budapest, Hungary, June 2-14, 1980.
- Wang, J., R. Newton, and J. Rouse, Jr.: Passive Microwave Remote Sensing of Soil Moisture: The Effect of Tilled Row Structure. IEEE Transactions of Geoscience and Remote Sensing, Vol. GE-18, No. 4, October 1980.
- Wang, J., and T. Schmugge: An Empirical Model for the Complex Dielectric Permittivity of Soils as a Function of Water Content. IEEE Transactions of Geoscience and Remote Sensing, Vol. GE-18, No. 4, October 1980.
- Wang, J., and Cloudhurry: Remote Sensing of Soil Moisture Content Over Bare Fields at 1.4GH, Frequency. Published in June 20, 1981, issue of JGR.

DOMESTIC CROFS/LAND COVER (DC)

W. H. Wigton, Project Manager

USDA/SRS Room 4832 S. Agricultural Building Washington, D.C. 20250

Phone: FTS 447-4906

15

PROJECT: DOMESTIC CROPS (DC)

DOCUMENT NOS.	TITLE
DC-L1-04051 JSC-17116	NTIS: &1N29511. Evaluation of Large Area Crop Estimation Techniques Using Landsat and Ground-Derived Data (March 1981)
DC-Y1-04069 NSTL/ERL-197	NTIS: 81N33557. An Evaluation of MSS P-Format Data Registration (April 1981)
DC-Y1-04089 NSTL/ERL-196	NTIS: 81N29496. Evaluation of Multiband, Multitemporal and Transformed Landsat MSS Data for Land Cover Area Estimation (April 1981)
DC-Y1-04156	NTIS: 82N24563. Analysis of Landsat MSS Scene-to-Scene Registration Accuracy (December 1981)
DC-Y1-04211	NTIS: 82N24564. An Algorithm for Automating the Registration of USDA Segment Ground Data to Landsat MSS Data (December 1981)
DC-Y1-04232	NTIS: 82N32787. Thematic Mapper Simulator Data Collected Over Eastern North Dakota (April 1982)
DC-L2-04264 JSC-17829 LEMSCO-17597	NTIS: &3N12487. Evaluation of Small Area Crop Estimation Techniques Using Landsat- and Ground-Derived Data (April 1982)
DC-J2-04273	Semi-Annual Program Review Presentation to Level 1, JSC-18223 Interagency Coordination Committee (April 20, 1982)
DC-Y2-04325	NTIS: 83N15740. Automatic Segment Matching Algorithm Theory Test and Evaluation (June 1982)
DC -R2-04353	SCS Urban Curve Numbers from a Landsat Data Base (October 1981)

PLANS - 00600

DOCUMENT NOS.	TITLE
DC-J1-C0619 JSC-17109	Domestic Crops and Land Cover Project Implementation Pian (1981)
DC-J1-C0626 JSC-17149	Domestic Crops and Land Cover Project Implementation Plan (1980)
DC-U1-C0648 JSC-17799	Domestic Crops and Land Cover Project Implementation Plan' for Fiscal Years 1982 and 1983 (November 1981)
DC-U2-00659 JSC-18585	Domestic Crops and Land Cover Project Implementation Plan for Fiscal Year 1983

PROJECT: DC

- Allen, Rich. USDA Registration and Rectification Requirements, NASA Workshop on Registration and Rectification, November 17, 1981.
- Craig, Michael E. 1980. Area Estimates by Landsat, Arizona 1979. Statistical Research Division, Economics. Statistics and Cooperatives Service, U.S. Department of Agriculture, Washington, D.C. 20250.
- Graham, Marcellus H. and Raymond Luebbe. An Evaluation of MSS P-Format Data Registration, Staff Report No. DC-Y1-04069, April 1981.
- Kleweno, David D. and Charles E. Miller. 1980 AgRISTARS DC/LC Project Summary Crop Area Estimates for Kansas and Iowa, ESS Staff Report No. *GESS-810414, March 1981.
- May, George. Evolution of Land Cover Definitions and Survey for the Economics and Statistics Service, June 1981.
- May, George and Rich Allen. Non-Sampling Errors in Non-Agricultural Strata of the 1980 Kansas June Enumerative Survey, October 1981.
- Mergerson, James Weldon. Crop Area Estimates Using Ground-Gathered and Landsat Data, ESS Staff Report No. AGESS 810223, February 1981.
- Mergerson, James Weldon. Crop Area Estimation Using Ground-Gathered Data Sampled Landsac Data, ESS Staff Report No. AGESS 810408, May 1981.
- Ozga, Martin and Richard Sigman. An Autodigitizing Procedure for Ground-Data Labeling of Landsat Pixels, Fifteenth International Symposium on Remote Sensing on Environment, Ann Arbor, MI, May 1981.
- Ryerson, Robertt A., Richard S. Sigman, and Ronald J. Brown. Satellite Remote Sensing for Domestic Crop Reporting in the United States and Canada: A Look to the Future, 7th Canadian Symposium on Remote Sensing, Winnipeg, Manitoba, September 9, 1981.
- Sigman, Richard and Michael Craig. Potential Utility of Thematic Mapper Data in Estimating Crop Areas, Fifteenth International Symposium on Remote Sensing of Environment, Ann Arbor, MI, May 1981.
- Stoner, E. R., G. A. May. Ind M. T. Kalcic. Evaluation of Multiband, Multitemporal, and T. formed Landsat MSS Data for Land Cover Area Estimation, Staff Report No. DC-Y1-04089, April 1981.
- Winings, Sherman B. Estimating Potatoes and Other Crops in the Red River Valley of North Dakota and Minnesota Using 1980 Landsat Imagery, ESS Staff Report No. 810519, May 1981.

RENSWABLE RESOURCES INVENTORY (RR)

F. P. Weber, Project Manager

USDA/FS 1050 Bay Area Blvd. Houston, Texas 77058

Phone: FTS 525-2081

DOCUMENT NOS.	TITLE
RR-L0-R0447 LCMSC0-14856	Use of Evaluation of the Vegetation Component of Recommended National Land Classification System for Penewable Resource Assessment Progress Report (April 1980)
RR-L0-00466 JSC-17122 LEMSCO-15173	NTIS: 82N23607. Use and Evaluation of the Vegetation Component of the National Site Classification System (April 1981)
RR-G0-04009	Sensor Parameter Study Literature Review and Experimental Plan (October 1980)
RR-E1-04034 USDA 53-3187-9-47	Nationwide Forestry Applications Program RRI Project - FINAL REPORT - Detection and Measurement of Changes in the Production and Quality of Renewable Resources (9/30/80)
RR-U1-04066 JSC-17123	NTIS: 81N29499. Analysis of Forest Classification Accuracy (January 1981)
RR-G1-04085 TM-82113	NTIS: 81N28499. INTERIM REPORT: Effects of Forest Canopy Closure on Incoming Sclar Radiance (April 1981)
RR-L1-04143 JSC-17418 LEMSCO-17154	NTIS: 82N21650. FINAL REPORT: An Evaluation of ISOCLS and CLASSY Clustering Algorithms for Forest Classification in Northern Idaho (August 1981)
RR-L1-04146 JSC-17422 LEMSCO-17163	NTIS: 82N21649. FINAL REPORT: San Juan National Forest Land Management Planning Support System (LMPSS) Requirements Definition (September 1981)
RR-L1-04171 JSC-17431 LEMSCO-17269	NTIS: 82N23596. Evaluation of VICAR Software Capability for Land Information Support System Needs (September 1981)
RR-Y1-04217	NTIS: 82N24565. An Analysis of Thematic Mapper Simulator Data Acquired During Winter Season Over Pearl River Mississippi Test Site (March 1982)
RR-G2-04258	Detecting Forest Canopy Change Using Landsat (April 1982)
RR-J2-04272 JSC-17832	Scmi-Annual Program Review Presentation to Level 1, Interagency Coordination Committee (April 19, 1982)
RR-E2-04293 USDA-Forest Service 53-3187-1-38	NTIS: 82N32790. FINAL REPORT: Data Base Manipulation for Assessment of Multiresource Suitability and Land Change (September 1981)

PROJECT: RR

REPORTS - 00400

RR-E2-04368
53-3187-2-24
FINAL REPORT: Development and Testing of Landsat Assisted Procedures for Cost Effective Forest Management (September 30, 1982)

RR-U2-04380
JSC-18583
Semi-Annual Program Review Presentation to Level 1, Interagency Coordination Committee (November 29, 1982)

PROJECT: RR PLANS - 00600

DOCUMENT NOS.

TITLE

RR-L1-U0641 JSC-17434 NTIS: 82N23597. Land Information Support System Implementation Plan and Schedule (October 1981)

> 1. 1.

- Allen, R. The AgRISTARS Research Program, Federal-Provincial Committee on Agricultural Statistics Ottawa, Canada, March 11, 1980.
- Allen, R. USDA A Federal User of Landsat Remote Sensing, Western Regional Remote Sensing Conference, Monterrey, California, March 30, 1981.
- Caudill, Charles E. and Richard C. McArdle, Research Evaluation Considerations for AgRISTARS, Third Conference on Economics of Remote Sensing, Lake Tahoe, Nevada, November 1979.
- Caudill, Charles E., Rich Allen, Dan Tarpley. and Galen Hart, AgRISTARS, Presentation to Washington Statistical Society, April 15, 1980.
- Larsen, G. A., William C. Iwig, Evaluation of Plant Process Models Using AgRISTARS Criteria, Crop Simulation Workshop, Gainesville, FL., March 1981.
- Mazade, A. V., Ten-Ecosystem Study Final Report. August 1981.
- Multiresource Inventory Methods Pilot Test (Phase 1): Final Report (October 1980), ESC
- Multiresource Inventory Methods Pilot Test (Phase 1), Multiresource Analysis and Information System Concept Development (June 1980), ESC
- Multiresource Inventory Methods Pilot Test (Phase 1), Multiresource Inventory Design and Sampling Network (June 1980), ESC
- Multiresource Inventory Methods Pilot Test (Phase 2), Implementation Plan (September 1980), ESC
- Most resource Inventory Methods Pilot Test (Phase 1), Evaluation of Sultiresource Analysis and Information System Processing Components, Kershaw County, SC Feasibility Test (September 1980), ESC
- Final Report Methods for Determination of REU Survey Plot and County Boundary Coordinates (September 1980), R. F. Liston, Forest Service, USDA
- Final Seport Detection and Measurement of Changes in the Production and Quality of Renewable Resources (September 1980), ERIM
- A Pilot Test of High Altitude Optical Bar Camera Photography to Estimate Annual Mortality of Ponderosa Pine Caused by the Mountain Pine Beetle in Colorado. LEMSCO 14308.

UNNUMBERED DCCUMENTS - 00900

PROJECT: RR

ISOCLS and CLASSY, Presentation at the 1981 Machine Processing of Remotely Sensed Data Symposium.

Multiresource Inventory Methods Pilot .est, ASP Meeting, February ?5, 1981.

CONSERVATION AND POLLUTION (CP)

J. C. Ritchie, Project Manager

USDA/SEA Room 239A, Building 005 BARC-West Beltsville, Maryland 20705

Phone: FTS 344-3105

DOCUMENT NOS.	TITLE
CP-G1-04072	Snow Run-Off Simulation Using the Martinac-Range Model on the South Fork Rio Grande and Conejos River in Colorado (February 1981)
CP-Z1-04078 JSC-17134	NTIS: 81N33569. Research for Reliable Quantification of Water Sediment Concentrations from Multispectral Scanner Remote Sensing Data (May 1981)
CP-G1-04102	Review of Hydrologic Models for Evaluating Use of Remote Sensing Capabilities (March 1981)
CP-Z1-04149 TM-83176	A Comparison of Observed and Analytical Derived Remote Sensing Penetration Depths for Turbid Water (September 1981)
CP-G1-04151	Strategies for Using Remotely Sensed Data in Hydrologic Models (July 1981)
CP-Z1-04177 NAS 1-16042	NTIS: 81N33568. Mineralogical, Optical, and Geochemical Properties of John H. Kerr Reservoir Sediment Samples for AgRISTARS Pollution Research (August 1981)
CP-32-04237 NAS 1-16000	NTIS: 82N32788. Determination of Turbidity Patterns in Lake Chicot from Landsat MSS Imagery (January 1982)
CP-32-04238	NTIS: 82N24551. Determination of Circulation and Turbidity Patterns in Kerr Lake from Landsat MSS Imagary (November 1981)
CP-Z2-04239	NTIS: 82N24543. Criteria for the Use of Regression Analysis for Remote Sensing of Sediment and Pollutants (February 1982)
CP-G2-04249	Remote Sensing and Hydrologic Model (March 1982)
CP-U2-04275	Semi-Annual Program Review Presentation to Level 1, interagency Coordination Committee (April 20, 1982)
CP-Z2-04294	NTIS: 82N2177:. Laboratory Upwelled Radiance and Reflectance Spectra of Kerr Reservoir Sediment Waters (March 1982)
CP-Z2-04295	Laboratory Measurements of Physical, Chemical, and Optical Characteristics of Lake Chicot Sediment Waters (December 1981)
CP-Z2-04307	Calibration of a Turbidity Meter for Making Estimates of Total Suspend: Solids Concentrattions and Beam Attenuation Coefficients i. Field Experiments (October 1981)

DOCUMENT NOS.	TITLE
CP-32-04324 NAS 1-16000	Kerr Reservoir Landsat Experiment Analysis for November 1980 (May 1982)
CP-32-04333 NAS 1-16000	Kerr Reservoir Landsat Experiment Analysis for March 1981 (July 1982)
CP-Z2-04338 NAS 1-16042	Mineralogical, Optical, and Geochemical Properties of John H. Kerr Reservoir and Lake Chicot Sediment Samples for AgRISTARS Pollution Research (August 1981)
CP-G2-04361	Near Surface Regional Ground Water Systems Modeling and Potential Application for Remote Sensing (October 1982)
CP-52-04372	A Model for Estimating Time-Variant Rainfall Infiltration as a Function of Antecedent Surface Moisture and Hydrologic Soil Type (October 1982)
CP-52-04373	Sensitivity of Rainfall Excess to Antecedent Soil Moisture and Soil Hydraulic Properties (October 1982)
CP-G2-04382	Combining Remotely Sensed and Other Measurements for Hydrologic Areal Averages
CP-53-04416	The Desorptivity Model of Bulk Suil-Water Evaporation (February 1983)
CP-53-04417	The Continuous Similarity Model of Bulk Soil-Water Evaporation (February 1983)

PROJECT: CP

PLANS - 00600

DOCUMENT NOS.	TITLE
CP-J1-C0621 JSC-17110	Conservation and Pollution Project Implementation Plan (1981)
CP-J1-C0625 JSC-17148	Conservation and Pollution Project Implementation Plan (1980)
CP-J1-C0643 JSC-17439	Conservation and Pollution Project Implementation Plan for Fiscal Years 1982 and 1983. (November 1981)
CP-U2-C0656 JSC-18565	Conservation and Pollution Project Implementation Plan for Fiscal Year 1983 (September 15, 1982)

PROJECT: CP

- Barnes, J. C. 1981. Survey Paper on Remote Sensing Techniques to Map Snow Cover. International Geoscience and Remote Sensing Symposium, Washington, D.C., June 1981.
- Barnes, W. L., and J. C. Price. 1980. Calibration of a Satellite Infrared Radiometer. J. of Applied Optics, 19, pp. 2153-2161.
- Bondelid, T. R., T. J. Jackson, and R. H. McCuen. 1980. Comparison of Conventional and Remotely Sensed Estimates of Runoff Curve Numbers in Southeastern Pennsylvania. Proc. Annual Meeting of ASP, St. Louis, MO. 1980.
- Bondelid, T. R., T. J. Jackson, and R. H. McCuen. 1980. A Computer Based Approach to Estimating Runoff Curve Numbers Using Landsat Data. Tech. Report, University of Maryland, College Park, MD.
- Bondelid, T. R., T. J. Jackson, and R. H. McGuen. 1981. Estimating Runoff Curve Numbers Using Remote Sensing Data. International Symposium on Rainfall-R noff Modeling, Mississippi State University.
- Brakensiek, D. L., R. L. Engleman, and W. J. Rawls. 1980. Variation withir Texture Classes of Soil Water Parameters. (Accepted for publication in Trans. Amer. Soc. of Agri. Engin.).
- Brakke, T. W., and Kanemasu, E. Isolation Estimations from Satellite Measurement of Reflected Radiation. Satellite Forecast Workshop, Washington, D.C., Sponsored by Solar Energy Research Institute, February 1981.
- Chang, A. T. C., and J. Shiue. 1980. A Comparative Study of Microwave Radiometer Observations Over Snowfields with Radiative Transfer Model Calculations. NASA TM-80267 (in press), Remote Sensing of Environment.
- Chang, A. T. C., J. Shiue, and A. Rango. 1980. Remote Sensing of Snow Properties by Passive Microwave Radiometry: GSFC Truck Experiment. NASA Microwave Snow Property Workshop, NASA CP-2153.
- Chang, A. T. C., J. L. Foster, D. K. Hall, and A. Rango. 1980. Monitoring Snowpack Properties by Passive Microwave Sensors On Board Aircraft and Satellite. NASA Microwave Snow Property Workshop, NASA CP-2153.
- Cooley, K. R., and L. J. Lane. 1980. Optimized Runoff Curve Numbers for Sugarcane and Pineapple Fields in Hawaii. J. Soil and Water Conserv. 35(3): 137-141, May-June.
- David, R., and D. Marks. 1980. Undisturbed Measurement of the Energy and Mass Balance of a Deep Alpine Snowcover. Proc. 48th Western Snow Conf., pp. 62-67.
- Dozier, J. 1980. Satellite Identification of Surface Radiant Temperature Fields of Subpixel Resolution. NOAA Tech. Memo. NESS 113, 11 pp.

- Dozier, J. 1980. use of Environmental Satellite Data for Input to Energy Balance Snowmelt Models. Final Report NOAA Grant 04-8-MO, 30 pp.
- Dozier, J. 1980. A Clear-Sky Spectral Solar Radiation Model for Snow-Covered Mountainous Terrains. Seminar NASA/GSFC, Greeenbelt, Md. Sponsored by Laboratory for Atmospheric Sciences. November 1980.
- Dozier, J. 1980. Satellite Derived Estimates of Net All-Wave Radiation Over an Alpine Snow Cover. A.G.U. (San Francisco), Fall 1980.
- Engman, E. T. 1981. Remote Sensing Applications in Hydraulic Modeling. Keynote paper for International Symposiums on Rainfall-Runoff Modeling, Mississippi State, MS (in press).
- Engman, E. T. 1979. Agriculture Needs Related to Satellite Hydrology (invited paper). American Water Resources Assoc. Percora. Sympos. Proc. (in press), Sioux Falls, SD.
- Foster, J. L., A. Rango, D. K. Hall, A. T. C. Chang, L. J. Allison, and B. C. Diesen. 1980. Snowpack Monitoring in North America and Eurasia Using Passive Microwave Satellite Data. Remote Sensing of the Environment (in press).
- Foster, J. L., D. K. Hall, A. Rango, A. T. Chang, L. J. Allison, and B. C. Diesen. 1980. The Influence of Snow Depth and Surface Air Temperature on Satellite-Derived Microwave Brightness Temperature. NASA Tech. Memo. TM-80695.
- Frampton, J., and D. Marks. 1980. Mapping Snow Surface Temperatur from Thermal Satellite Data in the Southern Sierra. Proc. 48th Western Snow Conf., pp. 88-96.
- Frew, 1980. Remote Sensing of Snow Surface Albedo. Contained in Final Report NOAA Grant 04-8-MC. Use of Environmental Satellite Data for Input to Energy Balance Snowmelt Models, 82 pp.
- Haan, C. T., D. L. Brakensiek, H. P. Johnson, eds. 1980 American Soc. Agri. Engin. Monograph on Hydrologic Modeling of Small Watersheds. (Scheduled public. March 1980).
- Hall, D. K., A. Rango, J. L. Foster, and A. T. C. Chang. 1980. Progress and Requirements of Passive Microwave Remote Sensing of Snowpack Properties. Proc. Workshop on Polar Surface Micro Properties for Climate Research, Greenbelt, Maryland.
- Hanson, C. L., E. L. Neff, and A. D. Nicks. 1980. Estimating SCS Runoff Curve Numbers on Native Grazing Lands. Vol. III, Chapter 3 IN CREAMS: A Field Scale Model for Chemicals, Runoff, and Erosion from Agricultural Management Systems. W. G. Knisel, ed. U.S. Department of Agriculture, SEA Conserv. Res. Report 26, May, pp. 398-404.

PROJECT: CP

- Hanson, C. L., E. L. Neff, J. T. Doyle, and T. L. Gilbert. 1981. Runoff Curve Numbers for Northern Great Plains Rangelands. (Submitted for publication in J. Soil and Water Conserv.)
- Hawley, M. E., R. H. McCuen, and A. Rango. 1980. Comparison of Models for Forecasting Snowmelt Runoff Volumes. Water Resources Bull. 16(5):914-920.
- Idso, S. B., and K. R. Cooley. 1980. Meteorological Modification of Particulate Air Pollution and Visibility Patterns at Phoenix, Arizona. (Accepted for publication in Archives Fur. Met., Geophys., and Bioclimat.)
- Jackson, T. J. 1980. Profile Soil Moisture from Surface Measurements. J. of Irrigation and Drainage Div., Amer. Soc. Civil Engin. Vol. 106, No. IR2, pp. 81-92.
- Jackson, T. J., and W. J. Rawls. 1980. SCS Urban Curve Mombers from a Landsat Data Base. (Accepted for Publ., Water Resources Bulletin.)
- Jackson, T. J., T. J. Schmugge, G. A. Coleman, C. R. Richardson, A. Chang, J. Wang, and E. T. Engman. 1980. Aircraft Remote Sensing of Soil Moisture and Hydrologic Parameters, Chickasha, Oklahoma. and Riesel, Texas. 1978 Data Report, ARR-NE-8, U. S. Department of Agriculture, SEA AR, Beltsville, MD.
- Jackson, T. J., T. J. Schmugge, A. D. Nicks, G. A. Coleman, and E. T. Engman. 1980. Soiil Moisture Updating and Microwave Remote Sensing for Hydrologic Simulation. Hydrological Sciences Bull. (in press).
- Johnson, C. W., G. M. Secrist, G. C. Scholten, and R. J. Baum. 1980. Watershed Management in Action on the Boise Front. Proc. Amer. Soc. Civil Engin. Watershed Management Sympos., Boise, Idaho, pp. 998-1011.
- Lillesand, T. M., D. E. Meisner, A. L. Downs, and R. L. Peuell. 1980. Satellite Monitoring of Snow Extent and condition in Agricultural, Transitional, and Forested Land Cover Areas. Final Report NOAA Grant NA80AA-D-0019, 35 pp.
- Marks, B., and D. Marks. 1980. Areal Determination of the Influence of a Forest Canopy on the Surface Radiant Energy Exchange. Proc. 48th Western Snow Conf., pp. 43-49.
- McCuen, R. H., W. J. Rawls, and D. L. Brakensiek. 1981. Statistical Analysis of the Brooks-Corey and the Green-Ampt Parameters Across Soil Textures. (Submit. for publication in Water Resources Research.)
- Moore, D. G., Heilman, J. L. Thermal Infrared for Monitoring Soil and Rainfall Distribution, International Geoscience and Remote Sensing Symposium, Washington, D.C., June 1981.
- Moore, D. G., Thermal Infrared for Monitoring Soil and Rainfall Distribution, NOAA/NESS Research and Development, May 1981.

PROJECT: CP

- Morris, W. D., W. G. Wilte, Jr., and C. H. Whitlock. 1980. Turbid Water Measurements of Remote Sensing Penetration Depth at Visible and Near Infrared Wavelengths. Proc. of Sympos. on Surface-Water Impoundments, Minneapolis, MN (in press).
- Narasimhan, V. A., A. L. Huber, J. P. Riley, and J. J. Jurinak. 1980. Development of Procedures to Evaluate Salinity Management Strategies in Irrigation Return Flows. Utah Water Res. Lab. Report No. UWRL/P-80-03, June.
- Nicks, A. D., and J. F. Harp. 1980. Stochastic Generation of Temperature and Solar Radiation Data. J. of Hydrology 48:1-17.
- Nicks, A. D., L. C. Miller, G. A. Gander, and Y. K. Yang. 1980. Estimated Dry Matter Production and Yield from Wheat and Rangeland Using Hydrologic Models and Landsat Data. Presentation at Amer. Geophysical Union Western Annual Meeting, December 8-12, San Francisco, California.
- Price, J. C. 1981. The Contribution of Thermal Data in Landsat Multispectral Classification. Photogrammetric Engin. & Remote Sensing 47:229-236.
- Price, J. C. 1980. The Potential of Remotely Sensed Thermal Infrared Data to Infer Surface Soil Moisture and Evaporation. Water Resources Res. 16:787-795.
- Price, J. C. Co-author with Lin, J. D. 1980. Guidelines for the Hydrologic Processes Special Study An Element of the NASA Climate Research Program. University of Connecticut.
- Price, J. C. Co-chairman with Dr. S. Galli de Paratesi, Joint Research Center of the European Communities, Ispra, Italy, of a meeting of the Experiment Team of the Satellite Program "Heat Capacity Mapping Mission," and the Tellus Program of the European Community, Ispra, Italy, March 25-28, 1980.
- Ragan, R. M., and T. J. Jackson. 1980. Runoff Synthesis Using Landsat and the SCS Models. J. of Hydraulics Div., Amer. Soc. Civil Engin. V-106, No. HYS, pp. 667-678.
- Ragan, R. M., and J. D. Fellows. 1980. An Overview of Remote Sensing Based on Regional Information Systems for Hydrologic Modeling. Proc. XIV Interm. Sympos. on Remote Sensing of the Environment, San Jose, Costa Rica, April.
- Ragan, R. M. 1980. Remote Sensing in Hydrologic Investigations. Presented at Intern. Seminar on Benefits of Remote Sensing for National Development. Co-sponsored by United Nations and Food and Agricultural Organization, San Jose, Costa Rica, April 20-22.
- Ragan, R. M., and J. D. Fellows. 1980. A Data Base System for Real Time Hydrologic Modeling. Proc. Civil Engin. Applications of Remote Sensing Specialty Conference, Amer. Soc. Civil Engin., Madison, Wisconsin, August.

ŧ :

- Ragan, R. M., and M. Calabrese. 1980. Renewable Resource Applications of Remote Sensing in the 1980's. Proc. 1980 Ann. Meeting, Amer. Astronautical Soc., Boston, MA, October.
- hango, A. 1980. Operational Applications of Satellite Snow Cover Observation. hater Resources Bull. 16(6):8 pp.
- Rango, A. 1980. Remote Sensing of Snow Covered Area for Runoff Modeling. Hyprological Forecasting (proc. of Oxford Sympos). IAHS-AISH publi. No. 129. Inter. Assoc. of Scientific Hydrology, Oxford, U.K., pp. 291-297.
- Rango, A., A. T. Chang, and J. L. Foster. 1979. The Utilization of Spaceborne Microwave Radiometers for Monitoring Snowpack Properties. Nordic Hydrology 10:25-40.
- Rango, A. and J. Martinec. 1979. Application of a Snowmelt-Runoff Model Using Landsat Data. Nordic Hydrology 10:225-238.
- Rango, A., and R. Peterson. 1980. Operational Applications of Satellite Snowcover Observations. NASA Conf. Publ. CP-2116, National Aeronautics and Space Administration, Washington, D.C. 302 pp.
- Rawls, W. J., T. J. Jackson, and J. F. Zuzel. 1980. Comparison of Areal Snow Sampling Procedures. Proc. Amer. Society of Civil Engin. Watershed Management Sympos.
- Rawls, W. J., T. J. Jackson, and J. F. Zuzel. 1979. Comparison of Areal Snow Storage Sampling Procedures for Rangeland Watersheds. Norrdic Hydrology (accepted for publication, December 1979).
- Rawls, W. J., A. Shalaby, and R. H. McCurn. 1980. Comparison of Methods of Determining Urban Runoff Curve Numbers. Amer. Soc. of Agri. Engin. Paper 80-2565.
- Schiebe, F. R. 1979. Solar Radiation Balance in Sediment Laden Waters. U.S. Geological Survey, National Space Technology Lab, October 1979.
- Schiebe, F. R. 1981. Remote Sensing of Water Quality. University of Minnesota, April 22, 1981.
- Schiebe, F. R., J. O. Farrell, and J. R. McHenry. 1980. Water Quality Improvement of lake Chicot, Arkansas. Proc. Sympos. Surface Water Impound. 14 pp.
- Stefan, H., R. F. Schiebe, and S. Dhamotharan. 1981. Suspended Sediment-Temperature Interaction in a Shallow Lake. (Edited by Amer. Soc. Civil Engin. Journal editor and being revised by authors.)
- Wight, J. R., and R. J. Hanks. 1981. A Water-Balance, Climate Model for Range Herbage Production. (Accept. for publication in J. Range Management.)

- Woolhiser, D. A., and D. L. Brakensiek. 1980. Hydrologic Systems Synthesis. Chapter 1 in Amer. Soc. Agri. Engin. Monography on Hydrologic Modeling of Small Watersheds (scheduled publication March 1981).
- Zuzel, J. F. 1980. Conditional Flow Simulation Model. (Accepted for publication in Water Resources Research.)